



SITE ASSESSMENT REPORT

**CONTINENTAL HEAT TREATING
10643 SOUTH NORWALK BOULEVARD
SANTA FE SPRINGS, CALIFORNIA**

Prepared for:

**Continental Heat Treating
10643 South Norwalk Boulevard
Santa Fe Springs, California 90221**

Prepared by:

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Project No. EST1315

May 6, 1997

1.0 INTRODUCTION

On March 10, 14, and 27, 1997, Environmental Support Technologies, Inc. (EST) performed further subsurface investigation at the Continental Heat Treating (CHT) facility located at 10643 South Norwalk Boulevard in Santa Fe Springs, California (**Figure 1**). This report was prepared to address requirements outlined by the Los Angeles County Fire Department (LACFD) in a letter to CHT dated August 6, 1996.

Site background information, results of previous (Phase 1) soil gas survey work (EST, May 2, 1996), rationale for Phase 2 soil gas sampling locations, and rationale for location of a soil boring were provided in the LACFD-approved "Remedial Investigation Work Plan" (Work Plan) (EST, September 27, 1996). Amendments to the Work Plan were proposed in "Remedial Investigation Work Plan Addendum" (EST, October 8, 1996) and "Addendum No. 2 to Work Plan for Site Assessment" (EST, March 26, 1997) which were subsequently approved by the LACFD.

The subsurface investigation was performed in accordance with the above-referenced work plan, the work plan addendums, and with Environmental Protection Agency (EPA)-recommended procedures for the collection, handling, and analysis of environmental samples.

2.0 SCOPE OF WORK

The scope of subsurface investigation included the following elements:

- Preparation of a Health and Safety Plan to guide the safe performance of work;
- Clearance of subsurface utilities;
- Further multi-depth soil gas survey work at an area of elevated concentrations of volatile organic compounds (VOCs) as indicated by Phase 1 soil gas survey results;
- Advancing a single soil boring to groundwater and collection of soil samples at five-foot-intervals for lithologic classification, field screening, and laboratory analyses;
- Installation of a vapor extraction well and nested soil gas sampling probes in the boring;
- State-certified laboratory analyses of soil samples for volatile organic compounds (VOCs) using EPA Method 8021;
- Sieve analysis of selected soil samples collected from the soil boring;
- Preparation of this Site Assessment Report.

3.0 PROJECT OBJECTIVES

The objectives of further subsurface investigation work were to:

- Assess the vertical extent of soil impacted by VOCs;
- Characterize subsurface lithology from grade to first-encountered groundwater;
- Assess current depth-to-groundwater;
- Evaluate the necessity of shallow soil remediation using Los Angeles Regional Water Quality Control Board (LARWQCB) criteria.

4.0 RATIONALE FOR SAMPLING LOCATIONS

Locations and depths of soil gas sampling probes installed on March 10 and 14, 1997 were based on results of prior soil sampling (Green Environmental, February 6, 1995) and on results of Phase 1 soil gas survey work (EST, May 2, 1996). The soil boring/vapor extraction well was located at an area of elevated concentrations of VOCs in soil gas as indicated by results of the Phase 2 multi-depth survey work performed on March 10 and 14, 1997. A plot plan of the CHT facility is shown in **Figure 2**.

5.0 FIELD METHODS AND PROCEDURES

Methods and procedures for soil gas survey work, subsurface utilities clearance, drilling, soil sampling, soil sample handling, soil sample field screening, soil sample chain-of-custody, and quality assurance/quality control data were provided in the previously referenced work plan (EST, September 27, 1996) and the Work Plan Addendums (EST, October 8, 1996 and March 26, 1997).

6.0 OBSERVATIONS AND RESULTS

Field measurements, observations, and laboratory analyses results for soil gas and soil samples are discussed in the following sections.

6.1 SOIL GAS ANALYSES RESULTS

Further (Phase 2) multi-depth soil gas survey work at CHT included the installation of two (2) 12-foot-deep, four (4) 15-foot-deep, four (4) 25-foot-deep, and two (2) 35-foot-deep soil gas sampling probes. The approximate locations of the soil gas probes are shown in **Figure 3**. Soil gas samples were collected from the multi-depth probes and analyzed for VOCs on-site using a mobile environmental laboratory. Analyses results for soil gas samples are summarized in **Table 1**. Laboratory analyses reports and quality assurance/quality control (QA/QC) data are provide in **Appendix A**.

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SITE ASSESSMENT REPORT

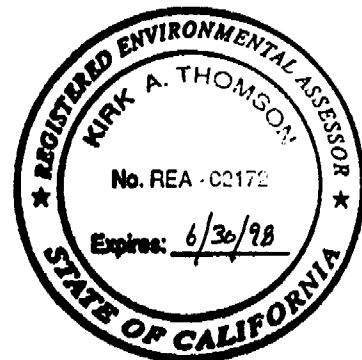
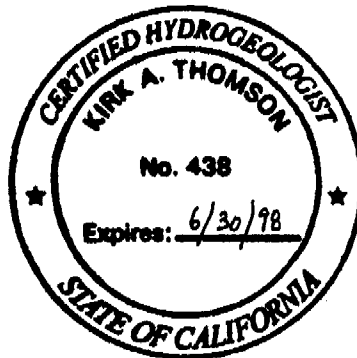
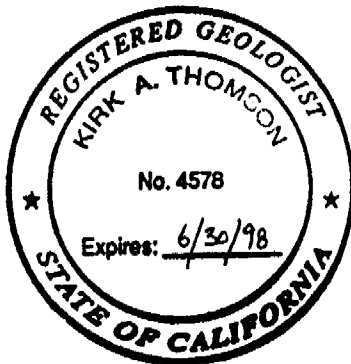
**Continental Heat Treating
10643 South Norwalk Boulevard
Santa Fe Springs, California**

WARRANTIES AND LIMITATIONS

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The information contained in this report was based on measurements performed in specific areas during a specific time period. EST's professional opinions and conclusions are based in part on interpretation of data from discrete sampling or measurement locations that may not represent actual conditions at unsampled or unmeasured locations.

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EXECUTIVE SUMMARY

On March 10, 14, and 27, 1997, Environmental Support Technologies, Inc. (EST) performed site assessment work at the Continental Heat Treating (CHT) facility located at 10643 South Norwalk Boulevard in Santa Fe Springs, California. Recent site assessment work was performed to address requirements set forth by the Los Angeles County Fire Department (LACFD) in a letter to CHT dated August 6, 1996. The site investigation was performed in accordance with the LACFD-approved "Remedial Investigation Work Plan" (EST, September 26, 1996), "Remedial Investigation Work Plan Addendum" (EST, October 8, 1996), and "Addendum No. 2 to Work Plan for Site Assessment" (EST, March 26, 1997).

The scope of subsurface investigation at the CHT site included further (Phase 2) multi-depth soil gas survey work. Locations and depths of Phase 2 soil gas sampling probes were based on previous soil gas analyses results (EST, May 2, 1996). A total of two (2) 12-foot-deep, four (4) 15-foot-deep, four (4) 25-foot-deep, and two (2) 35-foot-deep soil gas probes were installed, located generally in the vicinity of the former vapor degreaser. Soil gas samples were subsequently collected from the probes and analyzed on-site for volatile organic compounds (VOCs) by a mobile laboratory.

Analyses results for multi-depth soil gas samples indicated the presence of chlorinated VOCs, primarily tetrachloroethene (PCE) and trichloroethene (TCE). Concentrations of PCE were detected in 12 of 12 soil gas samples, ranging from 21 micrograms per liter ($\mu\text{g/L}$) to a maximum of 1,948 $\mu\text{g/L}$ at approximately 35-feet below grade (Probe SG5-35). Concentrations of TCE were detected in 10 of 12 soil gas samples, ranging from 7 $\mu\text{g/L}$ to a maximum of 156 $\mu\text{g/L}$ at approximately 35-feet below grade (Probe SG5-35). Lesser concentrations of PCE and TCE degradation compounds, including vinyl chloride (maximum 55 $\mu\text{g/L}$), trans-1,2-dichloroethene (maximum 27 $\mu\text{g/L}$), cis-1,2-dichloroethene (maximum 124 $\mu\text{g/L}$) were detected in the Phase 2 soil gas samples.

Aromatic hydrocarbons, including benzene, toluene, ethylbenzene, and xylene (BTEX) were also detected in several Phase 2 soil gas samples. Benzene was detected in two soil gas samples collected from approximately 35-feet below grade in Probes SG5-35 and SG10-35 at concentrations of 91 $\mu\text{g/L}$ and 188 $\mu\text{g/L}$, respectively. Detected concentrations of toluene in soil gas ranged from 57 $\mu\text{g/L}$ to a maximum of 257 $\mu\text{g/L}$. Ethylbenzene was detected in one soil gas sample (Probe SG9-15) at a concentration of 4 $\mu\text{g/L}$. Xylene was detected in two soil gas samples at concentrations of 6 $\mu\text{g/L}$ and 18 $\mu\text{g/L}$.

Based on Phase 2 soil gas analyses results, a single soil boring was located inside the facility and advanced to groundwater using hollow-stem auger drilling methods. Groundwater was encountered at approximately 68 feet below current grade. Undisturbed soil samples were collected at approximate five-foot-intervals from the boring and screened for total organic vapors (TOVs) in the field. Soil samples were visually inspected and classified in the field using Unified Soil Classification (USCS) criteria.

Upon encountering first groundwater and completion of soil sampling, nested soil gas sampling probes were installed at approximately 50 and 60 feet below grade in the bore-hole during back-filling. Upon back-filling to approximately 45 feet below grade, a vapor extraction well was installed in the bore-hole to address VOC-impacted soil as indicated by prior soil gas analyses results. The vapor extraction well was completed slightly above grade using a traffic-rated well-cover set in concrete.

A total of 13 soil samples were collected from the boring and analyzed for VOCs by a state-certified environmental laboratory (Sierra Laboratories, Laguna Hills, California - ELAP No. 1805). Additionally, six (6) soil samples collected at approximate 10-foot-intervals from the boring were subjected to sieve analysis to verify visual soil classification performed during drilling.

Concentrations of PCE were detected in soil samples collected from 5 to 60 feet below grade. Detected concentrations of PCE in soil ranged from 4.8 micrograms per kilogram ($\mu\text{g/Kg}$) to a maximum of 130 $\mu\text{g/Kg}$ at approximately 60 feet below grade (sample CHT-B1-60). Concentrations of TCE were detected in soil samples collected from 5 to 30 feet below grade, and at approximately 40, 45, and 60 feet below grade. Detected concentrations of TCE in soil samples ranged from 3 $\mu\text{g/Kg}$ to a maximum of 20 $\mu\text{g/Kg}$ at approximately 5 feet below grade (sample CHT-B1-5). Concentrations of TCE were not detected above the laboratory method detection limit (MDL) of 3 $\mu\text{g/Kg}$ in soil samples collected from approximately 35, 50, 55, and 65 feet below grade. Concentrations of cis-1,2-dichloroethene (maximum 17 $\mu\text{g/Kg}$) were detected in two soil samples. Toluene was detected in one soil sample collected from approximately 60 feet below grade at a concentration of 6.5 $\mu\text{g/Kg}$.

1.0 INTRODUCTION

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6.0 OBSERVATIONS AND RESULTS

Field measurements, observations, and laboratory analyses results for soil gas and soil samples are discussed in the following sections.

6.1 SOIL GAS ANALYSES RESULTS

Further (Phase 2) multi-depth soil gas survey work at CHT included the installation of two (2) 12-foot-deep, four (4) 15-foot-deep, four (4) 25-foot-deep, and two (2) 35-foot-deep soil gas sampling probes. The approximate locations of the soil gas probes are shown in Figure 3. Soil gas samples were collected from the multi-depth probes and analyzed for VOCs on-site using a mobile environmental laboratory. Analyses results for soil gas samples are summarized in Table 1. Laboratory analyses reports and quality assurance/quality control (QA/QC) data are provide in Appendix A.

Concentrations of chlorinated and aromatic VOCs were detected in soil gas sampled collected at the CHT site. Chlorinated VOCs detected in soil gas samples included vinyl chloride (VC), trans-1,2-dichloroethene (t-1,2-DCE), cis-1,2-dichloroethene (c-1,2-DCE), trichloroethene (TCE), and tetrachloroethene (PCE). Aromatic VOCs detected in soil gas samples included benzene, toluene, ethylbenzene, and total xylene (BTEX). Concentrations of PCE detected during the Phase 2 soil gas survey are posted in **Figure 4**. Results of soil gas analyses are discussed below.

6.1.1 Vinyl Chloride (VC)

Concentrations of VC were detected in 6 of 12 multi-depth soil gas samples. Detected concentrations of VC in soil gas ranged from 15 micrograms per liter ($\mu\text{g/L}$) in the sample collected from Probe SG1-12 (12-feet-deep) to a maximum of 55 $\mu\text{g/L}$ in the sample collected from Probe SG11-15 (15-feet-deep).

6.1.2 Trans-1,2-Dichloroethene (t-1,2-DCE)

Concentrations of t-1,2-DCE were detected in 4 of 6 multi-depth soil gas samples. Detected concentrations of t-1,2-DCE in soil gas ranged from 3 $\mu\text{g/L}$ in the sample collected from Probe SG1-12 to a maximum of 27 $\mu\text{g/L}$ in the sample collected from Probe SG5-15 (15-feet-deep).

6.1.3 Cis-1,2-Dichloroethene (c-1,2-DCE)

Concentrations of c-1,2-DCE were detected in 10 of 12 soil gas samples. Detected concentrations of c-1,2-DCE in soil gas ranged from 10 $\mu\text{g/L}$ in the sample collected from Probe SG9-15 (15-feet-deep) to a maximum of 124 $\mu\text{g/L}$ in the sample collected from Probe SG5-15.

6.1.4 Trichloroethene (TCE)

Concentrations of TCE were detected in 10 of 12 soil gas samples. Detected concentrations of TCE in soil gas ranged from 7 $\mu\text{g/L}$ in the sample collected from Probe SG1-12 (12-feet-deep) to a maximum of 156 $\mu\text{g/L}$ in the sample collected from Probe SG5-35 (35-feet-deep).

6.1.5 Tetrachloroethene (PCE)

Concentrations of PCE were detected in 12 of 12 soil gas samples. Detected concentrations of PCE in soil gas ranged from 21 $\mu\text{g/L}$ in the sample collected from Probe SG1-12 to a maximum of 1,948 $\mu\text{g/L}$ in Probe SG5-35.

6.1.6 Benzene

Benzene was detected in soil gas samples collected from Probes SG5-35 and SG10-35 at concentrations of 91 $\mu\text{g/L}$ and 188 $\mu\text{g/L}$, respectively.

6.1.7 Toluene

Concentrations of toluene were detected in 9 of 12 soil gas samples. Detected concentrations of toluene ranged from 57 µg/L in Probe SG12-12 (12-feet-deep) to a maximum of 257 µg/L in Probe SG11-25 (25-feet-deep).

6.1.8 Ethylbenzene

Ethylbenzene was detected in the soil gas sample collected from Probe SG9-15 (15-feet-deep) at a concentration of 4 µg/L.

6.1.9 Total Xylene

Total (meta + para + ortho) xylene was detected in soil gas samples collected from Probes SG5-15 (15-feet-deep) and SG9-15 (15-feet-deep) at concentrations of 6 µg/L and 18 µg/L, respectively.

6.2 DRILLING, SOIL SAMPLING, AND INSTALLATION OF A VAPOR EXTRACTION WELL WITH NESTED SOIL GAS PROBES

Based on results of the Phase 2 soil gas survey, a single soil boring was advanced in the vicinity of the former vapor degreaser. The approximate location of the soil boring (CHT-B1) is shown (with detected Phase 2 soil gas concentrations of VOCs) in **Figure 4**. Per LACFD requirements, the location of Boring CHT-B1 was referenced to a fixed datum point. The datum point used to locate CHT-B1 was the intersection of the southern CHT property line with the curb-line of South Norwalk Boulevard. Soil boring CHT-B1 was located approximately 147 feet east of, and 118 feet north of the datum point. Details of proposed drilling and soil sampling were provided in the Work Plan (EST, September 27, 1996). Details of the proposed vapor extraction well installation with nested soil gas probes were provided in Work Plan Addendum No. 2 (EST, March 26, 1997). Construction detail of the vapor extraction well with nested probes is shown in **Figure 5**.

6.3 LITHOLOGIC CHARACTERIZATION OF SOIL

Soil samples collected from the boring were visually classified using Unified Soil Classification (USCS) criteria. USCS criteria are provided in **Appendix B**. Sieve analyses were performed on selected soil samples to verify field classifications. Laboratory reports for sieve analyses are provided in **Appendix C**. The soil boring log is provided in **Appendix D**.

The boring was advanced at a 5-inch-thick concrete-paved location inside the facility. Lithologic materials encountered from below concrete-paving material to the water table (encountered at approximately 68 feet below grade) were predominantly clayey-silts with fine-to medium-grained sands (USCS Classification SM-ML), silts (USCS Classification ML) and silty-clays with fine sands (USCS Classification ML-CL).

6.4 CHEMICAL CHARACTERIZATION OF SOIL

Soil samples were analyzed for VOCs using EPA Method 8021. Laboratory analyses results for soil samples are summarized in **Table 2**. Laboratory analyses reports and quality assurance/quality control data for soil samples are provided in **Appendix E**. A total of thirteen (13) soil samples were collected at 5-foot-intervals from soil boring CHT-B1 and analyzed for VOCs. Concentrations of PCE, TCE, c-1,2-DCE, and toluene were detected in soil samples collected from the soil boring. Results of soil sample analyses are discussed below.

6.4.1 PCE

Concentrations of PCE were detected in soil samples collected from 5- to 60-feet below grade. Detected concentrations of PCE ranged from 4.8 micrograms per kilogram ($\mu\text{g/Kg}$) in soil sample CHT-B1-50 (collected from approximately 50 feet below grade) to a maximum of 130 $\mu\text{g/Kg}$ in soil sample CHT-B1-60 (collected from approximately 60 feet below grade). PCE was not detected above the laboratory method detection limit (MDL) of 3 $\mu\text{g/Kg}$ in the soil sample collected from approximately 65 feet below grade (CHT-B1-65). Detected concentrations of PCE were variable with depth, and did not exhibit apparent increasing or decreasing trends.

6.4.2 TCE

Concentrations of TCE were detected in soil samples collected from 5- to 30-feet below grade, from 40- and 45-feet below grade, and at 60-feet below grade. Detected concentrations of TCE ranged from 3 $\mu\text{g/Kg}$ in soil sample CHT-B1-40 (collected from approximately 40 feet below grade) to a maximum of 20 $\mu\text{g/Kg}$ in soil sample CHT-B1-5 (collected from approximately 5 feet below grade). TCE was not detected above the laboratory method detection limit (MDL) of 3 $\mu\text{g/Kg}$ in soil samples collected from approximately 35-, 50-, 55-, and 65 feet below grade. Detected concentrations of TCE were variable with depth, and did not exhibit apparent increasing or decreasing trends.

6.4.3 C-1,2-DCE

C-1,2-DCE was detected in soil samples collected from approximately 30- (CHT-B1-30) and 50-feet (CHT-B1-50) below grade in the boring, at concentrations of 17 $\mu\text{g/Kg}$ and 17 $\mu\text{g/Kg}$, respectively. C-1,2-DCE was not detected above the MDL of 3 $\mu\text{g/Kg}$ in other soil samples collected from the boring.

6.4.4 Toluene

Toluene was detected in soil sample CHT-B1-60 at a concentration of 6.5 $\mu\text{g/Kg}$. Toluene was not detected above the MDL (3 $\mu\text{g/Kg}$) in other soil samples collected from the boring.

6.5 INVESTIGATION-DERIVED SOIL CUTTINGS

Soil cuttings generated by hollow-stem auger drilling were contained in five (5) steel 55-gallon drums. The soil containment drums were labeled, secured, and left on-site near the western exit of the building. Treatment or disposal of investigation-derived soil cuttings is the responsibility of CHT. EST will assist CHT in evaluating the most appropriate treatment/disposal options, if requested.

7.0 PROPOSED SOIL CLEAN-UP LEVELS

Proposed soil clean-up levels (SCLs) were calculated using the LARWQCB Attenuation Factor Method (LARWQCB, February 1996). The attenuation factor method consists of a series of equations, into which site-specific variables (including depth-to-groundwater, subsurface lithology, and the identity of the contaminant(s)) are input.

Parameters used to calculate SCLs for the CHT site included depth-to-groundwater of 68 feet, silt lithology from grade to the water table, and PCE and TCE as contaminants. Proposed SCLs are presented in **Table 3**. Maximum detected values of PCE and TCE (excluding soil gas values for the northwest corner of the site due to potential off-site source) in soil and soil gas are summarized and compared to proposed SCLs in **Table 4**.

8.0 CONCLUSIONS

Soil in the vicinity of the former degreaser has been impacted primarily by PCE and TCE from grade to the water table, as indicated by analytical results for soil gas and soil samples. Concentrations of PCE and TCE detected in soil gas samples collected from approximately 5, 15, 25, and 35-feet below grade exceed proposed SCLs. Concentrations of PCE and TCE detected in soil samples collected from the boring are below proposed SCLs, with the exception of soil sample CHT-B1-60, collected from approximately 60 feet below grade.

REFERENCES

Marshack, Jon. B., September 1991. A Compilation of Water Quality Goals - A Staff Report of the California Regional Water Quality Control Board.

Environmental Support Technologies, Inc., November 20, 1995. Work Plan to Perform a Multi-Depth Soil Gas Survey - Continental Heat Treating Site - 10643 South Norwalk Boulevard, Santa Fe Springs, California.

Los Angeles Regional Water Quality Control Board, February 14, 1996. Interim Guidelines for Remediation of VOC-Impacted Sites.

Environmental Support Technologies, Inc., May 8, 1996. Multi-Depth Soil Gas Survey Report - Continental Heat Treating - 10643 South Norwalk Boulevard, Santa Fe Springs, California.

County of Los Angeles Fire Department, August 6, 1996. Letter to Continental heat Treating reviewing results of May 8, 1996 soil gas survey report and requesting further site investigation and submittal of a Remedial Investigation Work Plan.

Environmental Support Technologies, Inc., September 27, 1996. Remedial Investigation Work Plan - Continental Heat Treating Site - 10643 South Norwalk Boulevard, Santa Fe Springs, California.

Environmental Support Technologies, Inc., October 8, 1996. Remedial Investigation Work Plan Addendum - Continental Heat Treating - 10643 South Norwalk Boulevard, Santa Fe Springs, California.

County of Los Angeles Fire Department, January 15, 1997. Letter to Continental Heat Treating stating review and approval of "Remedial Investigation Work Plan" and "Remedial Investigation Work Plan Addendum".

Environmental Support Technologies, Inc., March 26, 1997. Addendum No. 2 to Work Plan for Site Assessment - Continental Heat Treating - 10643 South Norwalk Boulevard, Santa Fe Springs, California.

County of Los Angeles Fire Department, March 28, 1997. Letter to Continental Heat Treating stating receipt, review, and approval of "Addendum No. 2 to Work Plan for Site Assessment".

TABLE 1

SUMMARY OF FIELD ANALYSES RESULTS FOR SOIL GAS SAMPLES

CONTINENTAL HEAT TREATING
10643 SOUTH NORWALK BOULEVARD
SANTA FE SPRINGS, CALIFORNIA

03/18/97

CHT SOIL GAS RESULTS

| SAMPLING DATE | PROBE IDENTIFICATION | PROBE DEPTH (feet) | SAMPLING EVENTS | Chlorinated Hydrocarbons (ug/L)* | | | | | Aromatic Hydrocarbons (ug/L)* | | | |
|------------------|-------------------------|-----------------------|--------------------|----------------------------------|-----------|-----------|-------|-------|-------------------------------|---------|-------|-------|
| | | | | VC | T-1,2-DCE | C-1,2-DCE | TCE | PCE | BENZENE | TOLUENE | EBENZ | XYLS |
| 03/10/97 | SG1-12 | 12 | 2 | 15 | 3 | 23 | 7 | 21 | ND<1 | ND<1 | ND<1 | ND<1 |
| | SG5-15 | 15 | 5 | 50 | 27 | 124 | 105 | 1,151 | ND<5 | 148 | ND<5 | 6 |
| | SG5-25 | 25 | 1 | ND<50 | ND<50 | ND<50 | ND<50 | 597 | ND<50 | ND<50 | ND<50 | ND<50 |
| 03/14/97 | SG5-35 | 35 | 3 | ND<25 | ND<25 | 45 | 156 | 1,948 | 91 | 101 | ND<25 | ND<25 |
| 03/10/97 | SG9-15 | 15 | 4 | 45 | 10 | 10 | 28 | 503 | ND<1 | 214 | 4 | 18 |
| | SG9-25 | 25 | 1 | ND<20 | ND<20 | ND<20 | ND<20 | 213 | ND<20 | 123 | ND<20 | ND<20 |
| | SG10-15 | 15 | 2 | 25 | ND<10 | 24 | 33 | 118 | ND<10 | ND<10 | ND<10 | ND<10 |
| | SG10-25 | 25 | 2 | 29 | 24 | 82 | 116 | 533 | ND<5 | 87 | ND<5 | ND<5 |
| 03/14/97 | SG10-35 | 35 | 3 | ND<10 | ND<10 | 26 | 103 | 1,172 | 188 | 144 | ND<10 | ND<10 |
| 03/10/97 | SG11-15 | 15 | 1 | 55 | ND<20 | 48 | 92 | 445 | ND<20 | 208 | ND<20 | ND<20 |
| | SG11-25 | 25 | 1 | ND<20 | ND<20 | 26 | 44 | 368 | ND<20 | 257 | ND<20 | ND<20 |
| | SG12-12 | 12 | 1 | ND<10 | ND<10 | 31 | 23 | 284 | ND<10 | 57 | ND<10 | ND<10 |

* = Reported analyte concentrations are the highest detected in each probe within calibration range

ND = not detected above stated laboratory method detection limit (MDL)

(ug/L) = micrograms of compound per liter of soil gas

PCE = tetrachloroethene; synonym: perchloroethylene

XYLS = total (meta+para+ortho) xylene

T-1,2-DCE = trans-1,2-dichloroethene

C-1,2-DCE = cis-1,2-dichloroethene

EBENZ = ethylbenzene

TCE = trichloroethene

VC = vinyl chloride

TABLE 2

SUMMARY OF LABORATORY ANALYSES RESULTS FOR SOIL SAMPLES

CONTINENTAL HEAT TREATING
10643 SOUTH NORWALK BOULEVARD
SANTA FE SPRINGS, CALIFORNIA

04/09/97

CHT SOIL RESULTS

| SAMPLE DATE | SAMPLE IDENTIFICATION | SAMPLE DEPTH (feet) | Detected EPA Method 8021 Analytes (ug/Kg) | | | |
|----------------|--------------------------|------------------------|-------------------------------------------|-----------------|-----------|---------|
| | | | Tetrachloroethene | Trichloroethene | c-1,2-DCE | Toluene |
| 03/27/97 | CHT-B1-5 | 5 | 40 | 20 | ND<3 | ND<3 |
| | CHT-B1-10 | 10 | 31 | 9.6 | ND<3 | ND<3 |
| | CHT-B1-15 | 15 | 110 | 17 | ND<3 | ND<3 |
| | CHT-B1-20 | 20 | 42 | 14 | ND<3 | ND<3 |
| | CHT-B1-25 | 25 | 29 | 7 | ND<3 | ND<3 |
| | CHT-B1-30 | 30 | 50 | 9.4 | 17 | ND<3 |
| | CHT-B1-35 | 35 | 8.4 | ND<3 | ND<3 | ND<3 |
| | CHT-B1-40 | 40 | 16 | 3 | ND<3 | ND<3 |
| | CHT-B1-45 | 45 | 27 | 4 | ND<3 | ND<3 |
| | CHT-B1-50 | 50 | 4.8 | ND<3 | 17 | ND<3 |
| | CHT-B1-55 | 55 | 5.2 | ND<3 | ND<3 | ND<3 |
| | CHT-B1-60 | 60 | 130 | 7.7 | ND<3 | 6.5 |
| | CHT-B1-65 | 65 | ND<3 | ND<3 | ND<3 | ND<3 |

(ug/Kg) = micrograms of compound per kilogram of soil

c-1,2-DCE = cis-1,2-dichloroethene

ND = not detected above stated laboratory method detection limit

TABLE 3

**PROPOSED SOIL CLEAN-UP GOALS FOR PCE AND TCE BASED ON
LARWQCB ATTENUATION FACTOR METHOD**

(Source: "Interim Guidelines for Remediation of VOC-Impacted Sites", LARWQCB, February 14, 1996)

INPUT PARAMETERS:

DTW (feet) = Approximately 68-feet below grade.

LITHOLOGY = Silt from grade to water table.

VOC(s) = Trichloroethene (TCE) and Tetrachloroethene (PCE).

CHT SCL TABLE

| VOC | | TRICHLOROETHENE (AF = 145) | | | | TETRACHLOROETHENE (AF = 729) | | | |
|------------|-----|----------------------------|--------------|-------------|-------------|------------------------------|---------|-----------|-------------|
| BGS (feet) | D = | AF(d) = | AF(t) = | MCL (ppb) = | SCL (ppb) = | AF(d) = | AF(t) = | MCL (ppb) | SCL (ppb) = |
| 5 | 63 | 41.79 | 8.32 | 5 | 42 | 210.1 | 41.96 | 5 | 209 |
| 10 | 58 | 35.85 | 7.19 | 5 | 36 | 180.3 | 36.19 | 5 | 181 |
| 15 | 53 | 29.92 | 5.94 | 5 | 30 | 150.4 | 30.10 | 5 | 150 |
| 20 | 48 | 23.99 | 4.80 | 5 | 24 | 120.6 | 24.10 | 5 | 121 |
| 25 | 43 | 18.10 | 3.61 | 5 | 18 | 90.80 | 18.15 | 5 | 91 |
| 30 | 38 | 13.83 | 2.74 | 5 | 14 | 69.31 | 13.83 | 5 | 69 |
| 35 | 33 | 12.14 | 2.44 | 5 | 12 | 60.31 | 12.01 | 5 | 60 |
| 40 | 28 | 10.45 | 2.10 | 5 | 11 | 51.33 | 10.25 | 5 | 51 |
| 45 | 23 | 8.76 | 1.75 | 5 | 9 | 42.34 | 8.46 | 5 | 42 |
| 50 | 18 | 7.10 | 1.40 | 5 | 7 | 33.36 | 6.66 | 5 | 33 |
| 55 | 13 | 5.39 | 1.07 | 5 | 5 | 24.37 | 4.86 | 5 | 24 |
| 60 | 8 | 3.70 | 1.0 (Note 1) | 5 | 5 | 15.38 | 3.10 | 5 | 16 |
| 65 | 3 | 2.01 | 1.0 (Note 1) | 5 | 5 | 6.39 | 1.28 | 5 | 6 |

BGS = depth below ground surface

D = depth to groundwater below depth of interest

AF = compound attenuation factor (From LARWQCB Table 1)

LARWQCB = Los Angeles Regional Water Quality Control Board

Note 1: AF(d) and AF(t) values must be greater than 1 by definition.

AF(d) = AF modified for depth-to-groundwater.

AF(t) = AF(d) modified based on site lithology.

MCL = maximum contaminant level (for drinking water).

(ppb) = parts per billion

SCL = proposed soil clean-up level

TABLE 4

**COMPARISON OF MAXIMUM DETECTED VALUES OF PCE AND TCE
IN SOIL AND SOIL GAS WITH PROPOSED SOIL CLEAN-UP GOALS**

GHT COMPARISON TABLE

| VOC | Tetrachloroethene (PCE) | | | | Trichloroethene (TCE) | | |
|-----|-------------------------|--------------|-----------------|-----------|-----------------------|-----------------|-----------|
| | BGS (feet) | Soil (ug/Kg) | Soil gas (ug/L) | SCL (ppb) | Soil (ug/Kg) | Soil gas (ug/L) | SCL (ppb) |
| 0.5 | | 7,514 (1) | --- | NC | 4,759 (1) | --- | NC |
| 5 | | 40 (5) | 240 (2) | 209 | 20 (5) | 246 (2) | 42 |
| 10 | | 31 (5) | --- | 181 | 9.6 (5) | --- | 36 |
| 15 | | 110 (5) | 1,151 (3) | 150 | 17 (5) | 105 (3) | 30 |
| 20 | | 42 (5) | --- | 121 | 14 (5) | --- | 24 |
| 25 | | 29 (5) | 597 (3) | 91 | 7 (5) | 116 (3) | 18 |
| 30 | | 50 (5) | --- | 69 | 9.4 (5) | --- | 14 |
| 35 | | 8.4 (5) | 1,948 (4) | 60 | ND<3 (5) | 156 (4) | 12 |
| 40 | | 16 (5) | --- | 51 | 3 (5) | --- | 11 |
| 45 | | 27 (5) | --- | 42 | 3 (5) | --- | 9 |
| 50 | | 4.8 (5) | --- | 33 | ND<3 (5) | --- | 7 |
| 55 | | 5.2 (5) | --- | 24 | ND<3 (5) | --- | 5 |
| 60 | | 130 (5) | --- | 16 | 7.7 (5) | --- | 5 |
| 65 | | ND<3 (5) | --- | 6 | ND<3 (5) | --- | 5 |

BGS = depth below ground surface

NC = not calculated

(ug/Kg) = micrograms of compound per kilogram of soil

(ug/L) = micrograms of compound per liter of soil gas

(ppb) = parts per billion

--- = not applicable

SCL = soil clean-up level (proposed)

(1) Green Environmental, 02/06/95

(2) Environmental Support Technologies, 05/02/96

(3) Environmental Support Technologies, 03/10/97

(4) Environmental Support Technologies, 03/14/97

(5) Environmental Support Technologies, 03/27/97

FIGURES

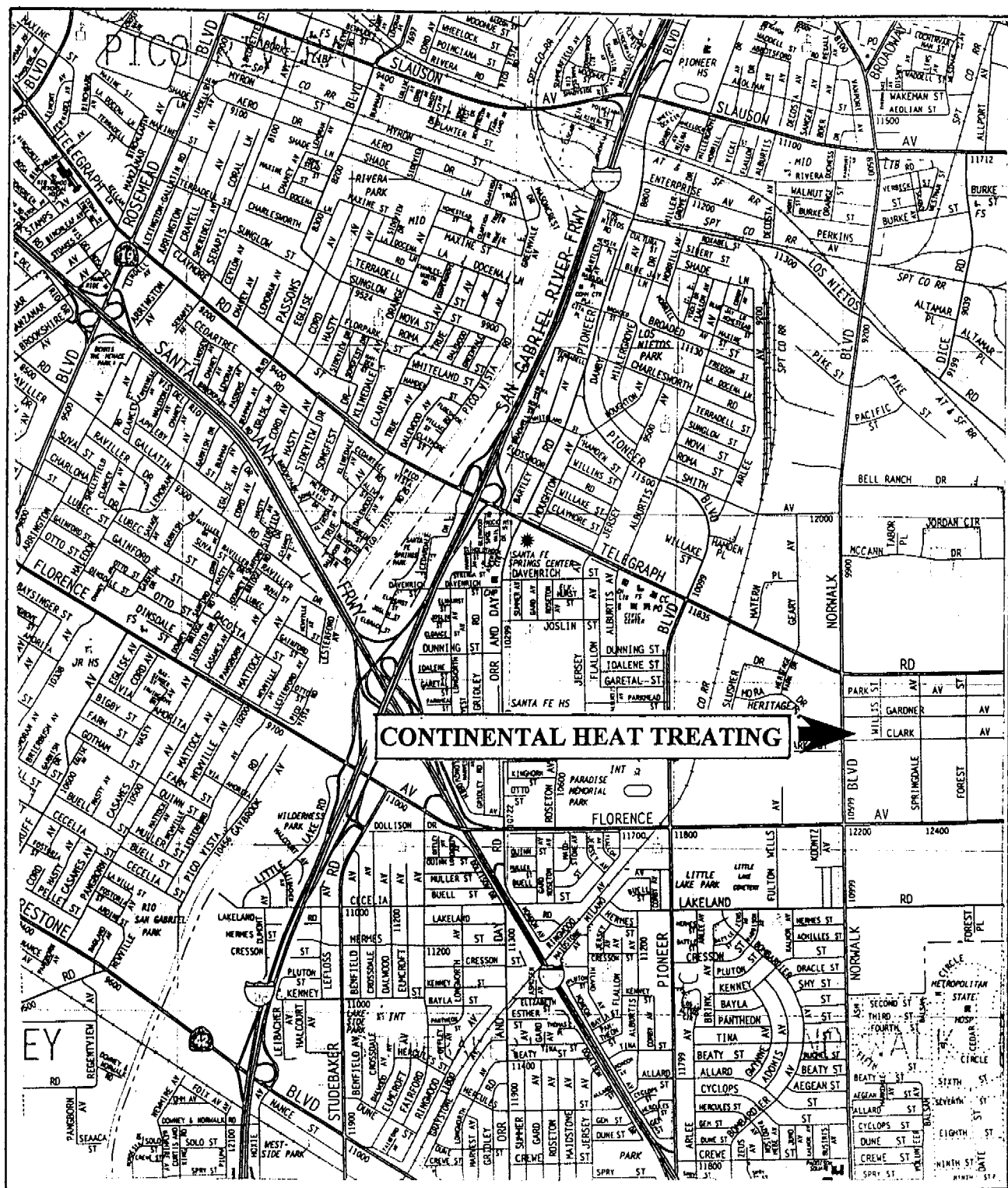
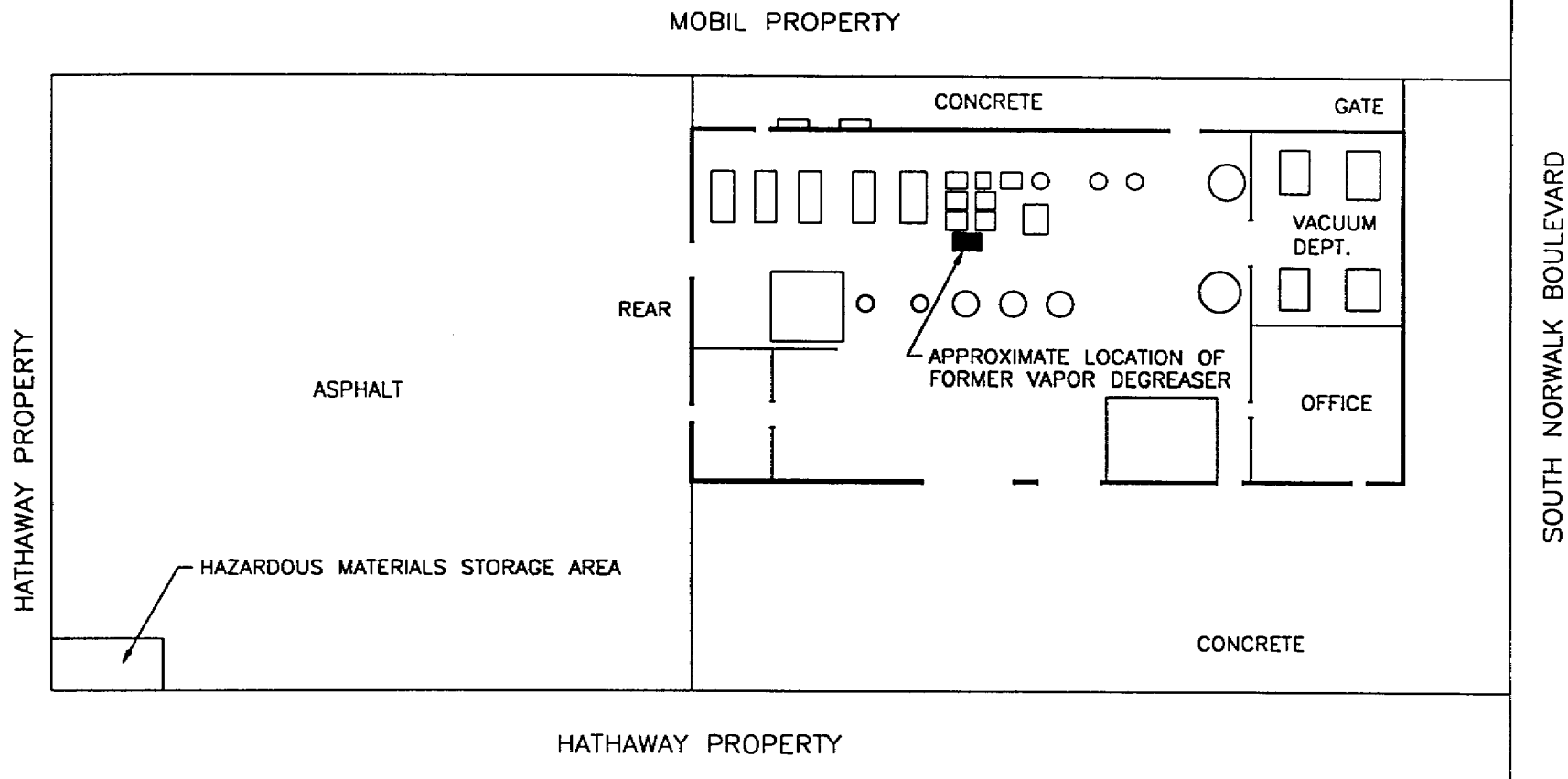


FIGURE 1
SITE LOCATION MAP
CONTINENTAL HEAT TREATING
SITE ASSESSMENT REPORT
EST1315

Source of Map: Thomas Bros., L.A. County, 1992



EXPLANATION

- FURNACES
- FURNACES

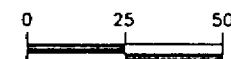
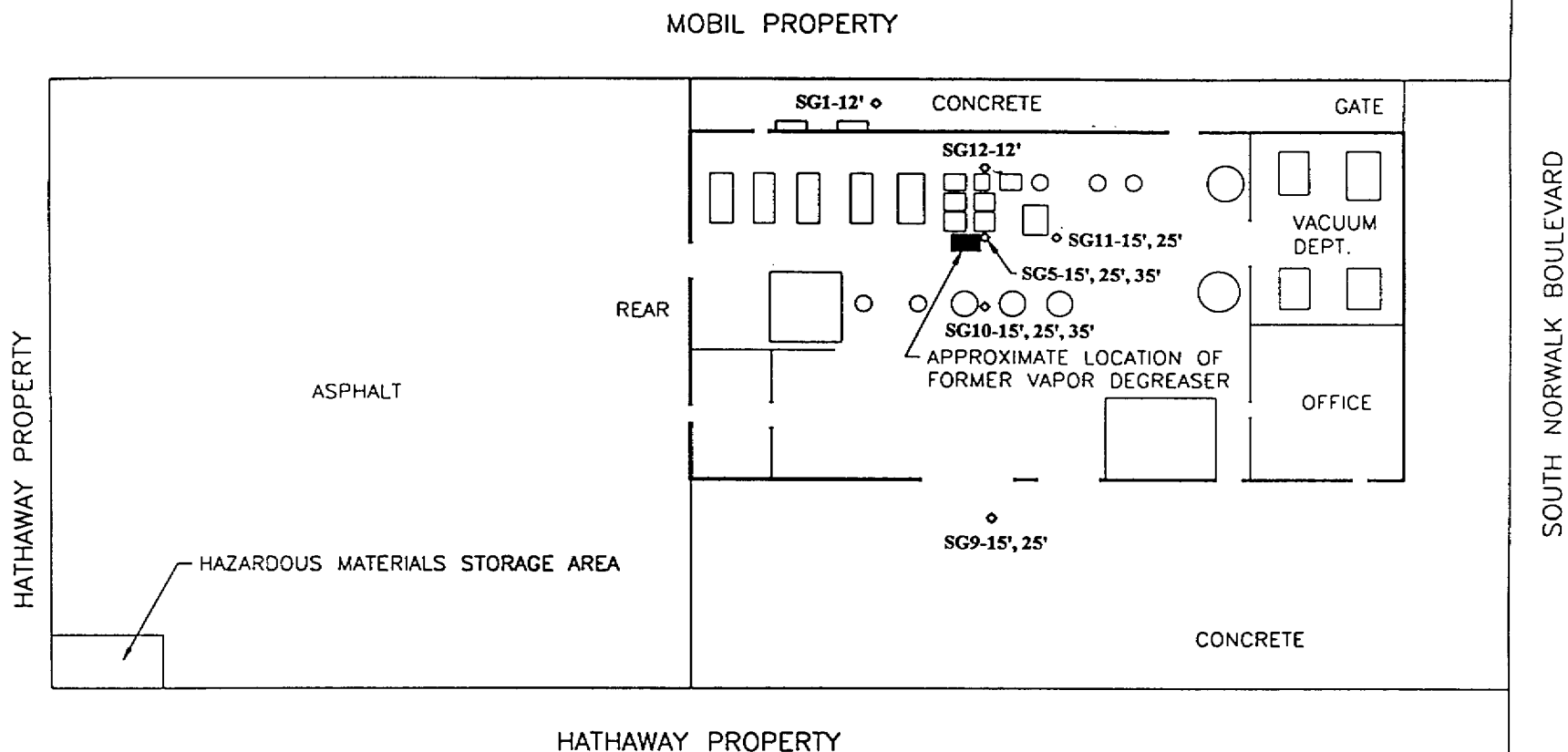


APPROXIMATE SCALE IN FEET

FIGURE 2

SITE MAP

CONTINENTAL HEAT TREATING, INC.
 10643 SOUTH NORWALK BOULEVARD
 SANTA FE SPRINGS, CALIFORNIA
 EST1315 / REMEDIAL INVESTIGATION WORK PLAN
 DRAWN BY: JST SCALE: AS SHOWN DATE: 9-27-1996



APPROXIMATE SCALE IN FEET

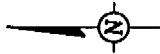
FIGURE 3
APPROXIMATE LOCATIONS OF PHASE 2
SOIL GAS SAMPLING PROBES

CONTINENTAL HEAT TREATING, INC.
 10643 SOUTH NORWALK BOULEVARD
 SANTA FE SPRINGS, CALIFORNIA
 EST1315

DRAWN BY: JST

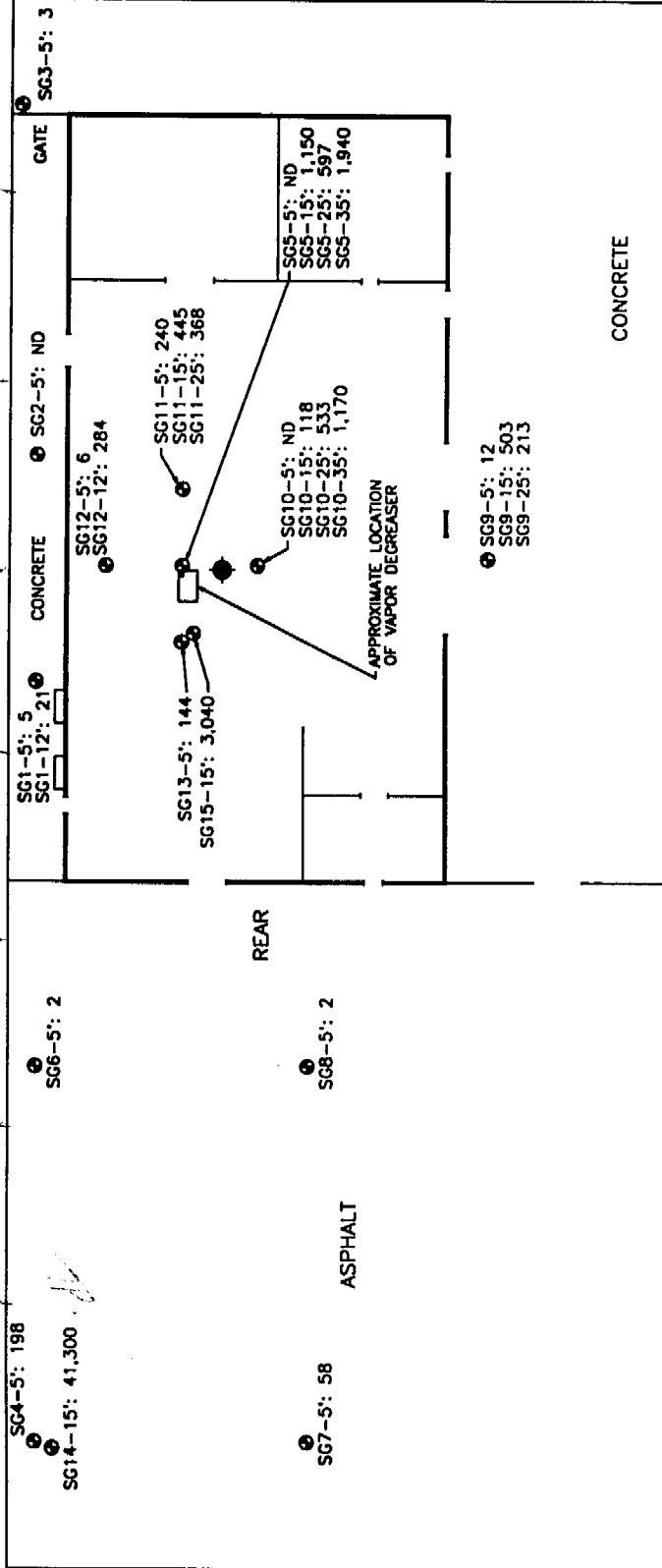
SCALE: AS SHOWN

DATE: 4-16-97



SOUTH NORWALK BOULEVARD

MOBIL PROPERTY



REFERENCE (DATUM) POINT
FOR SOIL BORING LOCATION

EXPLANATION

- APPROXIMATE LOCATION OF SOIL BORING CHT-B1
- WITH ASSOCIATED PROBE NUMBER, PROBE DEPTH AND DETECTED CONCENTRATIONS OF TETRACHLOROETHENE ($\mu\text{g/L}$)



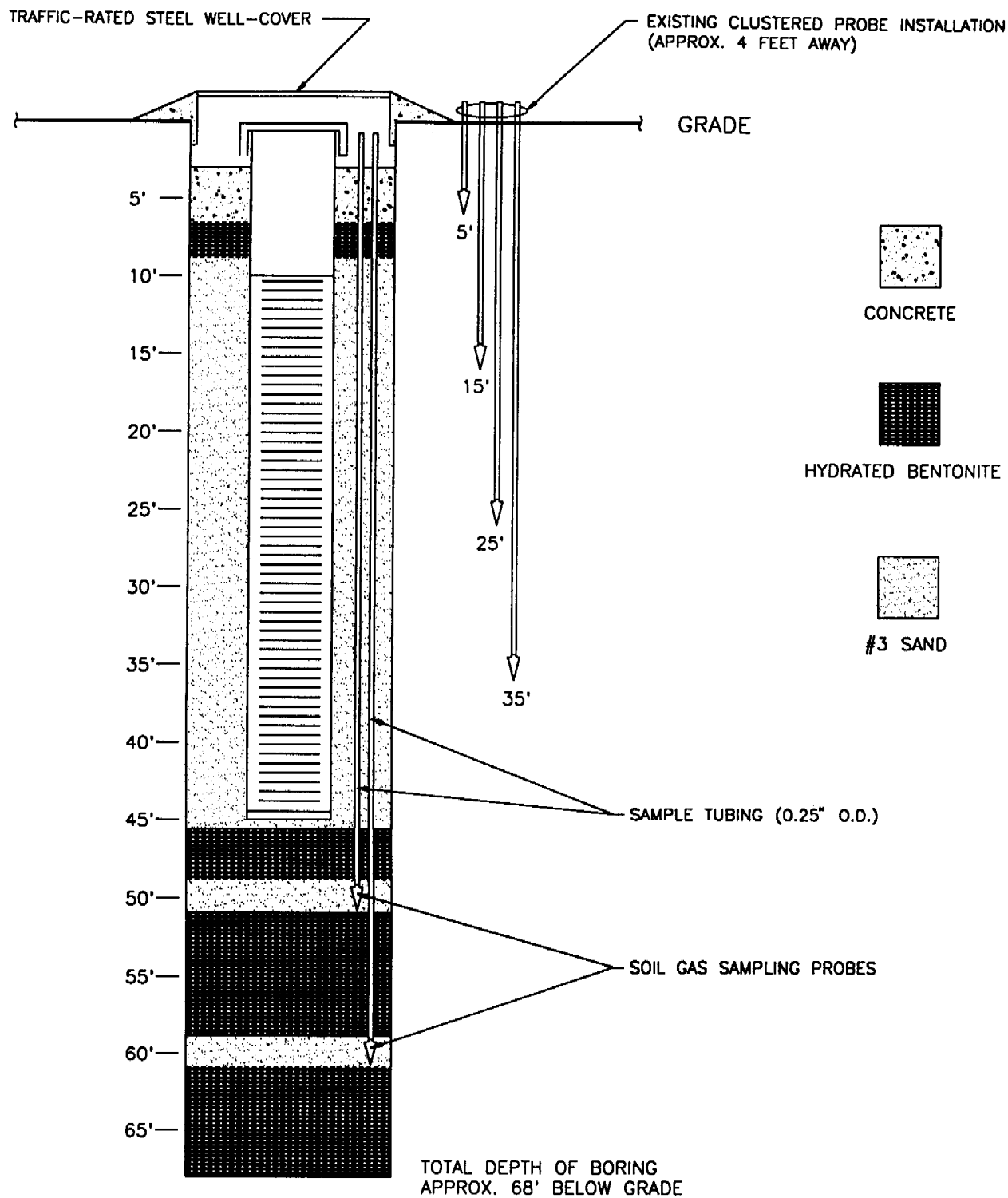
FIGURE 4
DETECTED CONCENTRATIONS OF PCE ($\mu\text{g/L}$)
IN PHASE 1 & PHASE 2 SOIL GAS PROBES
AND LOCATION OF SOIL BORING CHT-B1

CONTINENTAL HEAT TREATING, INC.
10643 SOUTH NORWALK BOULEVARD
SANTA FE SPRINGS, CALIFORNIA
EST1315/SITE ASSESSMENT REPORT

DRAWN BY: JST

SCALE: AS SHOWN

DATE: 4-16-1997



EXPLANATION

1. BORE-HOLE DIAMETER EXAGGERATED FOR CLARITY
2. VERTICAL SCALE: 1 INCH = 10 FEET

FIGURE 5

CONSTRUCTION DETAIL OF
VAPOR WELL WITH NESTED SOIL GAS PROBES

EST1315 /CONTINENTAL HEAT TREATING
DRAWN BY: JST SCALE: NOT TO SCALE DATE: 4-4-1997

APPENDIX A

**LABORATORY ANALYSES REPORTS AND
QA/QC DATA FOR SOIL GAS SAMPLES**

TABLE B-1

**HALOGENATED AND AROMATIC HYDROCARBONS
FIELD ANALYSES RESULTS FOR SOIL GAS SAMPLES
SITE LOCATED AT 10643 SOUTH NORWALK BOULEVARD, SANTA FE SPRINGS, CALIFORNIA
25-TARGET COMPOUND LIST**

PDELCID #2 - 3/10/97

FILE 13158SGRP

| SAMPLE ID | SG9-15 | SG9-15 | SG9-15 | SG9-15 | SG11-15 | SG5-15 | SG5-15 | SG5-15 |
|-------------------------------------|---------|----------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| DATE | 3/10/97 | 3/10/97 | 3/10/97 | 3/10/97 | 3/10/97 | 3/10/97 | 3/10/97 | 3/10/97 |
| TIME | 9:32 | 9:56 | 10:15 | 10:34 | 10:59 | 11:21 | 11:43 | 12:03 |
| INJECTION VOLUME (μl) | 500 | 25 | 25 | 25 | 25 | 100 | 20 | 5 |
| PURGE VOLUME (ml) | 200 | 200 | 400 | 800 | 400 | 400 | 400 | 400 |
| VACUUM (in. Hg) | ND | ND | ND | ND | ND | ND | ND | ND |
| DILUTION FACTOR | 1 | 20 | 20 | 20 | 20 | 5 | 25 | 100 |
| REPORTABLE LIMIT (μg/L) | 1 | 20 | 20 | 20 | 20 | 5 | 25 | 100 |
| COMMENTS | RT | ARF | | | | | | Syringe leak |
| Dichlorodifluoromethane | 5:00 | 1.85E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| Vinyl chloride | 5:27 | 3.55E+05 | 7.95E+02 4 | 3.98E+02 45 | 3.11E+02 35 | 3.17E+02 36 | 4.88E+02 55 | 1.48E+03 41 |
| Chloroethane | 5:78 | 1.16E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| Trichlorofluoromethane | 6:08 | 6.82E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| 1,1,2-Trichloro-trifluoroethane | 6:50 | 3.72E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| 1,1-Dichloroethene | 6:80 | 6.26E+05 | 1.29E+02 ND<1 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 5.10E+01 ND<5 | 0.00E+00 ND |
| Methylene chloride | 7:27 | 6.85E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 5.00E+01 ND<20 | 0.00E+00 ND |
| trans-1,2-Dichloroethene | 7:58 | 5.65E+05 | 2.79E+03 10 | 6.40E+01 ND<20 | 8.70E+01 ND<20 | 6.10E+01 ND<20 | 0.00E+00 ND<20 | 1.53E+03 27 |
| 1,1-Dichloroethane | 8:02 | 8.11E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 6.80E+01 ND<20 | 0.00E+00 ND |
| cis-1,2-Dichloroethene | 8:68 | 8.18E+05 | 4.04E+03 10 | 1.28E+02 ND<20 | 1.32E+02 ND<20 | 9.60E+01 ND<20 | 9.90E+02 48 | 1.01E+04 124 |
| Chloroform | 8:87 | 1.14E+06 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| 1,1,1-Trichloroethane | 9:35 | 9.03E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| Carbon tetrachloride | 9:80 | 8.33E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| Benzene | 9:88 | 3.03E+04 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| 1,2-Dichloroethane | 9:90 | 1.91E+06 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| Fluorobenzene (Surrogate) | 10:03 | 1.70E+04 | 1.72E+02 202% | 7.90E+01 93% | 7.90E+01 93% | 7.50E+01 88% | 7.40E+01 87% | 7.40E+01 87% |
| Trichloroethene | 10:60 | 9.23E+05 | 1.75E+04 38 | 4.97E+02 22 | 6.47E+02 28 | 3.90E+02 ND<20 | 2.12E+03 82 | 1.41E+04 152 |
| cis-1,3-Dichloropropene (Surrogate) | 11:82 | 6.54E+05 | 3.22E+03 99% | 3.14E+03 96% | 3.27E+03 100% | 3.07E+03 94% | 2.97E+03 91% | 3.01E+03 92% |
| Toluene | 12:38 | 2.77E+04 | 5.51E+03 398 | 1.23E+02 178 | 1.48E+02 214 | 1.08E+02 153 | 1.44E+02 208 | 3.59E+02 130 |
| 1,1,2-Trichloroethane | 12:85 | 8.98E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| Tetrachloroethene | 13:43 | 9.24E+05 | 7.29E+04 158 | 9.59E+03 415 | 1.16E+04 503 | 7.12E+03 308 | 1.03E+04 445 | 5.65E+04 611 |
| 1,1,1,2-Tetrachloroethane | 14:80 | 9.51E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| Ethylbenzene | 14:77 | 2.33E+04 | 4.40E+01 4 | 0.00E+00 ND<20 | 0.00E+00 ND<20 | 0.00E+00 ND<20 | 0.00E+00 ND<20 | 0.00E+00 ND<20 |
| meta and para-Xylene | 14:88 | 6.61E+04 | 4.08E+02 12 | 0.00E+00 ND<20 | 0.00E+00 ND<20 | 0.00E+00 ND<20 | 4.10E+01 6 | 0.00E+00 ND<25 |
| ortho-Xylene | 15:88 | 2.29E+04 | 7.20E+01 8 | 0.00E+00 ND<20 | 0.00E+00 ND<20 | 0.00E+00 ND<20 | 0.00E+00 ND<20 | 0.00E+00 ND<25 |
| 1,1,2,2-Tetrachloroethane | 16:57 | 8.70E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |

Concentrations reported in micrograms per liter (μg/L)

ND = Not detected

NDX = Not detected above the reported limit of quantitation

RT = Retention time

μl = Microliter

ml = Milliliter

in. Hg = Inches of mercury

ARF = Average response factor

* = Exceeds quantitation range

NA = Not Analyzed

3/10/97

TABLE B-1

**HALOGENATED AND AROMATIC HYDROCARBONS
FIELD ANALYSES RESULTS FOR SOIL GAS SAMPLES
SITE LOCATED AT 10643 SOUTH NORWALK BOULEVARD, SANTA FE SPRINGS, CALIFORNIA
25-TARGET COMPOUND LIST**

PID/LCD #2 - 3/10/97

FILE: 131583GRP

| SAMPLE ID | SG5-15 | SG5-15 | SG10-15 | SG10-15 | SG12-12 | SG1-12 | SG1-12 | SG5-25 |
|-------------------------------------|---------|----------|-------------------|--------------------|-------------------|-------------------|-------------------|------------------|
| DATE | 3/10/97 | 3/10/97 | 3/10/97 | 3/10/97 | 3/10/97 | 3/10/97 | 3/10/97 | 3/10/97 |
| TIME | 12:24 | 12:42 | 13:04 | 13:21 | 13:44 | 14:09 | 14:26 | 14:49 |
| INJECTION VOLUME (μl) | 10 | 5 | 20 | 50 | 50 | 500 | 100 | 10 |
| PURGE VOLUME (ml) | 400 | 400 | 400 | 400 | 370 | 370 | 370 | 500 |
| VACUUM (in. Hg) | ND | ND | ND | ND | ND | 11 | 11 | ND |
| DILUTION FACTOR | 50 | 100 | 25 | 10 | 10 | 1 | 5 | 50 |
| REPORTABLE LIMIT (μg/L) | 50 | 100 | 25 | 10 | 10 | 1 | 5 | 50 |
| COMMENTS | RT | ARF | | | | | | |
| Dichlorodifluoromethane | 5:00 | 1.85E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| Vinyl chloride | 5:27 | 3.55E+05 | 0.00E+00 ND<50 | 0.00E+00 ND<100 | 0.00E+00 ND<25 | 4.45E+02 25 | 0.00E+00 ND<10 | 1.10E+03 6 |
| Chloroethane | 5:78 | 1.16E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| Trichlorofluoromethane | 6:08 | 6.82E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| 1,1,2-Trichloro-trifluoroethane | 6:50 | 3.72E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| 1,1-Dichloroethene | 6:80 | 6.26E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| Methylene chloride | 7:27 | 6.85E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| trans-1,2-Dichloroethene | 7:58 | 5.65E+05 | 9.80E+01 ND<50 | 5.10E+01 ND<100 | 0.00E+00 ND<25 | 1.24E+02 ND<10 | 1.98E+02 ND<10 | 7.82E+02 3 |
| 1,1-Dichloroethane | 8:02 | 8.11E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| cis-1,2-Dichloroethene | 8:68 | 8.18E+05 | 6.92E+02 85 | 3.25E+02 ND<100 | 3.69E+02 ND<25 | 9.89E+02 24 | 1.28E+03 31 | 6.54E+03 16 |
| Chloroform | 8:87 | 1.14E+06 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| 1,1,1-Trichloroethane | 9:35 | 9.03E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| Carbon tetrachloride | 9:80 | 8.33E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| Benzene | 9:88 | 3.03E+04 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| 1,2-Dichloroethane | 9:90 | 1.91E+06 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| Fluorobenzene (Surrogate) | 10:03 | 1.70E+04 | 7.80E+01 93% | 7.80E+01 92% | 8.20E+01 96% | 7.80E+01 89% | 8.50E+01 76% | 8.10E+01 95% |
| Trichloroethene | 10:60 | 9.23E+05 | 9.70E+02 105 | 3.97E+02 ND<100 | 4.68E+02 25 | 1.50E+03 33 | 1.06E+03 23 | 2.94E+03 6 |
| cis-1,3-Dichloropropene (Surrogate) | 11:82 | 6.54E+05 | 3.07E+03 94% | 3.09E+03 95% | 3.22E+03 99% | 3.21E+03 98% | 2.83E+03 86% | 3.38E+03 103% |
| Toluene | 12:38 | 2.77E+04 | 4.10E+01 148 | 0.00E+00 ND<100 | 0.00E+00 ND<25 | 0.00E+00 ND<10 | 7.90E+01 57 | 0.00E+00 ND<1 |
| 1,1,2-Trichloroethane | 12:85 | 8.98E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| Tetrachloroethene | 13:43 | 9.24E+05 | 1.63E+04 1,760 | 5.32E+03 1,150 | 1.81E+03 88 | 5.44E+03 118 | 1.31E+04 284 | 1.44E+04 31 |
| 1,1,1,2-Tetrachloroethane | 14:80 | 9.51E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| Ethylbenzene | 14:77 | 2.33E+04 | 0.00E+00 ND<50 | 0.00E+00 ND<100 | 0.00E+00 ND<25 | 0.00E+00 ND<10 | 0.00E+00 ND<10 | 0.00E+00 ND<1 |
| meta and para-Xylene | 14:88 | 6.61E+04 | 0.00E+00 ND<50 | 0.00E+00 ND<100 | 0.00E+00 ND<25 | 0.00E+00 ND<10 | 0.00E+00 ND<10 | 0.00E+00 ND<1 |
| ortho-Xylene | 15:68 | 2.29E+04 | 0.00E+00 ND<50 | 0.00E+00 ND<100 | 0.00E+00 ND<25 | 0.00E+00 ND<10 | 0.00E+00 ND<10 | 0.00E+00 ND<1 |
| 1,1,2,2-Tetrachloroethane | 16:57 | 8.70E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |

Concentrations reported in micrograms per liter (μg/L)

ND = not detected

ND< = not detected above the reported limit of quantitation

RT = retention time

μl = microliter

ml = milliliter

in. Hg = inches of mercury

ARF = average response factor

* = exceeds quantitation range

NA = Not Analyzed

3/10/97

TABLE B-1

**HALOGENATED AND AROMATIC HYDROCARBONS
FIELD ANALYSES RESULTS FOR SOIL GAS SAMPLES
SITE LOCATED AT 10643 SOUTH NORWALK BOULEVARD, SANTA FE SPRINGS, CALIFORNIA
25-TARGET COMPOUND LIST**

PIDELCD #2 - 3/14/97

FILE: 1316C8GRP

| SAMPLE ID | SG10-35 | SG10-35 | SG10-35 | SG5-35 | SG5-35 | SG5-35 | NA | NA |
|-------------------------------------|---------|----------|-----------------|-------------------|-------------------|--------------------|-------------------|-------------------|
| DATE | 3/14/97 | 3/14/97 | 3/14/97 | 3/14/97 | 3/14/97 | 3/14/97 | NA | NA |
| TIME | 13:23 | 13:48 | 14:07 | 14:37 | 15:02 | 15:25 | NA | NA |
| INJECTION VOLUME (μl) | 50 | 10 | 10 | 20 | 500 | 500 | NA | NA |
| PURGE VOLUME (ml) | 600 | 600 | 600 | 600 | 600 | 600 | NA | NA |
| VACUUM (in. Hg) | ND | ND | ND | ND | ND | ND | NA | NA |
| DILUTION FACTOR | 10 | 50 | 50 | 25 | 80 | 80 | NA | NA |
| REPORTABLE LIMIT (μg/L) | 10 | 50 | 50 | 25 | 80 | 80 | NA | NA |
| COMMENTS | RT | ARF | Syringe Leak ? | | Dilution 1 : 80 | Dilution Duplicate | | |
| Dichlorodifluoromethane | 5:00 | 1.85E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | NA NA |
| Vinyl chloride | 5:27 | 3.55E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | NA NA |
| Chloroethane | 5:78 | 1.16E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | NA NA |
| Trichlorofluoromethane | 6:08 | 6.82E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | NA NA |
| 1,1,2-Trichloro-trifluoroethane | 6:50 | 3.72E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | NA NA |
| 1,1-Dichloroethene | 6:80 | 6.26E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | NA NA |
| Methylene chloride | 7:27 | 6.85E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | NA NA |
| trans-1,2-Dichloroethene | 7:58 | 5.65E+05 | 0.00E+00 ND | 0.00E+00 ND | 5.20E+01 ND<50 | 1.37E+02 ND<25 | 0.00E+00 ND | 0.00E+00 ND |
| 1,1-Dichloroethane | 8:02 | 8.11E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | NA NA |
| cis-1,2-Dichloroethene | 8:58 | 8.18E+05 | 1.08E+03 26 | 0.00E+00 ND<50 | 2.77E+02 ND<50 | 7.39E+02 45 | 1.96E+02 ND<80 | 1.97E+02 ND<80 |
| Chloroform | 8:87 | 1.14E+06 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| 1,1,1-Trichloroethane | 9:35 | 9.03E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| Carbon tetrachloride | 9:80 | 8.33E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| Benzene | 9:88 | 3.03E+04 | 1.53E+02 101 | 0.00E+00 ND<50 | 5.70E+01 188 | 5.50E+01 91 | 0.00E+00 ND<80 | 0.00E+00 ND<80 |
| 1,2-Dichloroethane | 9:90 | 1.91E+06 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| Fluorobenzene (Surrogate) | 10:03 | 1.70E+04 | 7.00E+01 82% | 9.60E+01 113% | 9.40E+01 111% | 8.40E+01 99% | 8.40E+01 99% | 8.00E+01 94% |
| Trichloroethene | 10:60 | 9.23E+05 | 3.55E+03 77 | 0.00E+00 ND<50 | 9.53E+02 103 | 2.87E+03 155 | 8.21E+02 142 | 8.98E+02 158 |
| cis-1,3-Dichloropropene (Surrogate) | 11:82 | 6.54E+05 | 3.01E+03 92% | 2.88E+03 88% | 3.67E+03 112% | 3.12E+03 95% | 3.30E+03 101% | 3.13E+03 96% |
| Toluene | 12:38 | 2.77E+04 | 1.55E+02 112 | 0.00E+00 ND<50 | 4.00E+01 144 | 5.60E+01 101 | 0.00E+00 ND<80 | 0.00E+00 ND<80 |
| 1,1,2-Trichloroethane | 12:85 | 8.98E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| Tetrachloroethene | 13:43 | 9.24E+05 | 4.37E+04 945 | 1.87E+03 202 | 1.08E+04 1,170 | 3.80E+04 2,060 | 1.12E+04 1,950 | 1.01E+04 1,750 |
| 1,1,1,2-Tetrachloroethane | 14:80 | 9.51E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| Ethylbenzene | 14:77 | 2.33E+04 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| meta and para-Xylene | 14:88 | 6.61E+04 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| ortho-Xylene | 15:68 | 2.29E+04 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |
| 1,1,2,2-Tetrachloroethane | 16:57 | 8.70E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND |

Concentrations reported in micrograms per liter (μg/L)

ND = Not detected

ND< = Not detected above the reported limit of quantitation

RT = Retention time

μl = Microliter

ml = Milliliter

in. Hg = Inches of mercury

ARF = Average response factor

* = Exceeds quantitation range

NA = Not Analyzed

3/14/97

(RA)

TABLE B-1

**HALOGENATED AND AROMATIC HYDROCARBONS
FIELD ANALYSES RESULTS FOR SOIL GAS SAMPLES
SITE LOCATED AT 10643 SOUTH NORWALK BOULEVARD, SANTA FE SPRINGS, CALIFORNIA
25-TARGET COMPOUND LIST**

PDELCO #2- 3/10/97

FILE 131585GRP

| SAMPLE ID | SG10-25 | SG10-25 | SG11-25 | SG9-25 | NA | NA | NA | NA |
|-------------------------------------|---------|----------|------------------|-------------------|-------------------|-------------------|----------|----------|
| DATE | 3/10/97 | 3/10/97 | 3/10/97 | 3/10/97 | NA | NA | NA | NA |
| TIME | 15:09 | 15:27 | 15:44 | 16:03 | NA | NA | NA | NA |
| INJECTION VOLUME (μl) | 100 | 20 | 25 | 25 | NA | NA | NA | NA |
| PURGE VOLUME (ml) | 500 | 500 | 500 | 500 | NA | NA | NA | NA |
| VACUUM (in. Hg) | ND | ND | ND | ND | NA | NA | NA | NA |
| DILUTION FACTOR | 5 | 25 | 20 | 20 | NA | NA | NA | NA |
| REPORTABLE LIMIT (μg/L) | 5 | 25 | 20 | 20 | NA | NA | NA | NA |
| COMMENTS | RT | ARF | | | | | | |
| Dichlorodifluoromethane | 5:00 | 1.85E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | NA NA | NA NA |
| Vinyl chloride | 5:27 | 3.55E+05 | 1.02E+03 29 | 0.00E+00 ND<25 | 0.00E+00 ND<20 | 0.00E+00 ND<20 | NA NA | NA NA |
| Chloroethane | 5:78 | 1.16E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | NA NA | NA NA |
| Trichlorofluoromethane | 6:08 | 6.82E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | NA NA | NA NA |
| 1,1,2-Trichloro-trifluoroethane | 6:50 | 3.72E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | NA NA | NA NA |
| 1,1-Dichloroethene | 6:80 | 6.26E+05 | 5.60E+01 ND<5 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | NA NA | NA NA |
| Methylene chloride | 7:27 | 6.85E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | NA NA | NA NA |
| trans-1,2-Dichloroethene | 7:58 | 5.65E+05 | 1.38E+03 24 | 1.12E+02 ND<25 | 0.00E+00 ND<20 | 0.00E+00 ND<20 | NA NA | NA NA |
| 1,1-Dichloroethane | 8:02 | 8.11E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | NA NA | NA NA |
| cis-1,2-Dichloroethene | 8:68 | 5.18E+05 | 6.69E+03 82 | 6.04E+02 37 | 5.36E+02 26 | 0.00E+00 ND<20 | NA NA | NA NA |
| Chloroform | 8:87 | 1.14E+06 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | NA NA | NA NA |
| 1,1,1-Trichloroethane | 9:35 | 9.03E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | NA NA | NA NA |
| Carbon tetrachloride | 9:80 | 8.33E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | NA NA | NA NA |
| Benzene | 9:88 | 3.03E+04 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | NA NA | NA NA |
| 1,2-Dichloroethane | 9:90 | 1.91E+06 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | NA NA | NA NA |
| Fluorobenzene (Surrogate) | 10:03 | 1.70E+04 | 6.90E+01 81% | 8.20E+01 96% | 6.30E+01 74% | 7.30E+01 86% | NA NA | NA NA |
| Trichloroethene | 10:60 | 9.23E+05 | 1.07E+04 116 | 8.45E+02 46 | 1.01E+03 44 | 2.08E+02 ND<20 | NA NA | NA NA |
| cis-1,3-Dichloropropene (Surrogate) | 11:82 | 6.54E+05 | 3.39E+03 104% | 3.77E+03 115% | 3.05E+03 93% | 3.20E+03 98% | NA NA | NA NA |
| Toluene | 12:38 | 2.77E+04 | 5.62E+02 203 | 4.80E+01 87 | 1.78E+02 257 | 8.50E+01 123 | NA NA | NA NA |
| 1,1,2-Trichloroethane | 12:85 | 8.98E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | NA NA | NA NA |
| Tetrachloroethene | 13:43 | 9.24E+05 | 5.03E+04 545 | 9.84E+03 533 | 8.49E+03 368 | 4.93E+03 213 | NA NA | NA NA |
| 1,1,1,2-Tetrachloroethane | 14:80 | 9.51E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | NA NA | NA NA |
| Ethylbenzene | 14:77 | 2.33E+04 | 0.00E+00 ND<5 | 0.00E+00 ND<25 | 0.00E+00 ND<20 | 0.00E+00 ND<20 | NA NA | NA NA |
| meta and para-Xylene | 14:88 | 6.61E+04 | 0.00E+00 ND<5 | 0.00E+00 ND<25 | 0.00E+00 ND<20 | 0.00E+00 ND<20 | NA NA | NA NA |
| ortho-Xylene | 15:68 | 2.28E+04 | 0.00E+00 ND<5 | 0.00E+00 ND<25 | 0.00E+00 ND<20 | 0.00E+00 ND<20 | NA NA | NA NA |
| 1,1,2,2-Tetrachloroethane | 16:57 | 8.70E+05 | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | 0.00E+00 ND | NA NA | NA NA |

Concentrations reported in micrograms per liter (μg/L)

ND = not detected

ND< = not detected above the reported limit of quantitation

RT = retention time

μl = microliter

ml = milliliter

in. Hg = inches of mercury

ARF = average response factor

* = exceeds quantitation range

NA = Not Analyzed

3/10/97

TABLE B-2
QUALITY ASSURANCE/QUALITY CONTROL REPORT
SUBJECT SITE, CALIFORNIA

3/10/97

FILE: 13188QAC

| TARGET COMPOUNDS | | February 18, 1997 | | | | | | | March 10, 1997 | | | | | |
|-------------------------------------|-------|-------------------------|----------|----------|----------|------|----------|-------|----------------|-----------|-----|-------|----------|-----|
| | | THREE-POINT CALIBRATION | | | | | LCS | | | MID-POINT | | | LAST RUN | |
| STANDARD CONC. (µg/L) | | 5000 | 5000 | 5000 | | | 5000 | BLANK | | 5000 | | BLANK | 5000 | |
| INJECTION VOLUME(µL) | | 0.50 | 1.00 | 2.00 | | | 1.00 | 500 | | 1.00 | | 500 | 1.00 | |
| COMPOUND/WEIGHT(µg) | RT | 0.0025 | 0.0050 | 0.0100 | ARF | %RSD | 0.0050 | RPD | | 0.0050 | RPD | | 0.0050 | RPD |
| Dichlorodifluoromethane | 5:00 | 485 | 859 | 1885 | | | 997 | | | | | | 0 | |
| CF | | 1.94E+05 | 1.72E+05 | 1.89E+05 | 1.85E+05 | 6 | 1.99E+05 | 8 | ND | 0.00E+00 | NA | ND | 0.00E+00 | NA |
| Vinyl chloride | 5:27 | 1037 | 1737 | 3026 | | | 1665 | | | 1329 | | | 0 | |
| CF | | 4.15E+05 | 3.47E+05 | 3.03E+05 | 3.55E+05 | 16 | 3.33E+05 | -6 | ND | 2.66E+05 | -25 | ND | 0.00E+00 | NA |
| Chloroethane | 5:78 | 380 | 552 | 858 | | | 435 | | | | | | 0 | |
| CF | | 1.52E+05 | 1.10E+05 | 8.58E+04 | 1.16E+05 | 29 | 8.70E+04 | -25 | ND | 0.00E+00 | NA | ND | 0.00E+00 | NA |
| Trichlorofluoromethane | 6:08 | 1874 | 3417 | 6137 | | | 3697 | | | | | | 0 | |
| CF | | 7.50E+05 | 6.83E+05 | 6.14E+05 | 6.82E+05 | 10 | 7.39E+05 | 8 | ND | 0.00E+00 | NA | ND | 0.00E+00 | NA |
| 1,1,2-Trichloro-trifluoroethane | 6:50 | 1009 | 1870 | 3395 | | | 2058 | | | | | | 0 | |
| CF | | 4.04E+05 | 3.74E+05 | 3.40E+05 | 3.72E+05 | 9 | 4.12E+05 | 11 | ND | 0.00E+00 | NA | ND | 0.00E+00 | NA |
| 1,1-Dichloroethane | 6:80 | 1755 | 3049 | 5648 | | | 3357 | | | 2959 | | | 0 | |
| CF | | 7.02E+05 | 6.10E+05 | 5.65E+05 | 6.26E+05 | 11 | 6.71E+05 | 7 | ND | 5.92E+05 | -5 | ND | 0.00E+00 | NA |
| Methylene chloride | 7:27 | 1918 | 3366 | 6138 | | | 3737 | | | | | | 0 | |
| CF | | 7.67E+05 | 6.73E+05 | 6.14E+05 | 6.85E+05 | 11 | 7.47E+05 | 9 | ND | 0.00E+00 | NA | ND | 0.00E+00 | NA |
| trans-1,2-Dichloroethene | 7:58 | 1567 | 2747 | 5184 | | | 3129 | | | 2855 | | | 0 | |
| CF | | 6.27E+05 | 5.49E+05 | 5.18E+05 | 5.65E+05 | 10 | 6.26E+05 | 11 | ND | 5.71E+05 | 1 | ND | 0.00E+00 | NA |
| 1,1-Dichloroethane | 8:02 | 2272 | 3786 | 7662 | | | 4188 | | | 4207 | | | 0 | |
| CF | | 9.09E+05 | 7.57E+05 | 7.66E+05 | 8.11E+05 | 10 | 8.38E+05 | 3 | ND | 8.41E+05 | 4 | ND | 0.00E+00 | NA |
| cis-1,2-Dichloroethene | 8:68 | 2307 | 3802 | 7713 | | | 4482 | | | 3961 | | | 0 | |
| CF | | 9.23E+05 | 7.60E+05 | 7.71E+05 | 8.18E+05 | 11 | 8.86E+05 | 10 | ND | 7.92E+05 | -3 | ND | 0.00E+00 | NA |
| Chloroform | 8:87 | 3177 | 5252 | 11010 | | | 6212 | | | | | | 0 | |
| CF | | 1.27E+06 | 1.05E+06 | 1.10E+06 | 1.14E+06 | 10 | 1.24E+06 | 9 | ND | 0.00E+00 | NA | ND | 0.00E+00 | NA |
| 1,1,1-Trichloroethane | 9:35 | 2526 | 4163 | 8665 | | | 4844 | | | 4680 | | | 0 | |
| CF | | 1.01E+06 | 8.33E+05 | 8.67E+05 | 9.03E+05 | 10 | 9.69E+05 | 7 | ND | 9.36E+05 | 4 | ND | 0.00E+00 | NA |
| Carbon tetrachloride | 9:80 | 2024 | 3980 | 8927 | | | 4010 | | | | | | 0 | |
| CF | | 8.10E+05 | 7.96E+05 | 8.93E+05 | 8.33E+05 | 6 | 8.02E+05 | -4 | ND | 0.00E+00 | NA | ND | 0.00E+00 | NA |
| Benzene (PID) | 9:88 | 77 | 142 | 316 | | | 139 | | | 161 | | | 0 | |
| CF | | 3.08E+04 | 2.84E+04 | 3.16E+04 | 3.03E+04 | 6 | 2.78E+04 | -8 | ND | 3.22E+04 | 6 | ND | 0.00E+00 | NA |
| 1,2-Dichloroethane | 9:90 | 5667 | 8497 | 17712 | | | 8163 | | | 10493 | | | 0 | |
| CF | | 2.27E+06 | 1.70E+06 | 1.77E+06 | 1.91E+06 | 16 | 1.63E+06 | -15 | ND | 2.10E+06 | 10 | ND | 0.00E+00 | NA |
| Fluorobenzene (Surrogate) | 10:03 | 40 | 83 | 184 | | | 0 | | | | | | 0 | |
| CF | | 1.60E+04 | 1.66E+04 | 1.84E+04 | 1.70E+04 | 7 | 0.00E+00 | NA | ND | 0.00E+00 | NA | ND | 0.00E+00 | NA |
| Trichloroethene | 10:60 | 2600 | 4242 | 8805 | | | 5064 | | | 4783 | | | 0 | |
| CF | | 1.04E+06 | 8.48E+05 | 8.81E+05 | 9.23E+05 | 11 | 1.01E+06 | 10 | ND | 9.57E+05 | 4 | ND | 0.00E+00 | NA |
| cis-1,3-Dichloropropene (Surrogate) | 11:82 | 1540 | 3263 | 6937 | | | 0 | | | | | | 0 | |
| CF | | 6.16E+05 | 6.53E+05 | 6.94E+05 | 6.54E+05 | 6 | 0.00E+00 | NA | ND | 0.00E+00 | NA | ND | 0.00E+00 | NA |
| Toluene (PID) | 12:38 | 67 | 133 | 297 | | | 133 | | | 147 | | | 0 | |
| CF | | 2.68E+04 | 2.66E+04 | 2.97E+04 | 2.77E+04 | 6 | 2.66E+04 | -4 | ND | 2.94E+04 | 6 | ND | 0.00E+00 | NA |
| 1,1,2-Trichloroethane | 12:85 | 2479 | 4085 | 8839 | | | 4778 | | | 4611 | | | 0 | |
| CF | | 9.92E+05 | 8.17E+05 | 8.84E+05 | 8.98E+05 | 10 | 9.56E+05 | 6 | ND | 9.22E+05 | 3 | ND | 0.00E+00 | NA |
| Tetrachloroethene | 13:43 | 2542 | 4258 | 9022 | | | 4711 | | | 4364 | | | 0 | |
| CF | | 1.02E+06 | 8.52E+05 | 9.02E+05 | 9.24E+05 | 9 | 9.42E+05 | 2 | ND | 8.73E+05 | -5 | ND | 0.00E+00 | NA |
| 1,1,1,2-Tetrachloroethane | 14:80 | 2715 | 4194 | 9296 | | | 4848 | | | | | | 0 | |
| CF | | 1.09E+06 | 8.39E+05 | 9.30E+05 | 9.51E+05 | 13 | 9.70E+05 | 2 | ND | 0.00E+00 | NA | ND | 0.00E+00 | NA |
| Ethylbenzene (PID) | 14:77 | 48 | 124 | 259 | | | 108 | | | | | | 0 | |
| CF | | 1.92E+04 | 2.48E+04 | 2.59E+04 | 2.33E+04 | 15 | 2.16E+04 | -7 | ND | 0.00E+00 | NA | ND | 0.00E+00 | NA |
| m,p-Xylene (PID) | 14:88 | 159 | 317 | 712 | | | 329 | | | 353 | | | 0 | |
| CF | | 6.36E+04 | 6.34E+04 | 7.12E+04 | 6.61E+04 | 7 | 6.58E+04 | 0 | ND | 7.06E+04 | 7 | ND | 0.00E+00 | NA |
| o-Xylene (PID) | 15:68 | 57 | 99 | 261 | | | 120 | | | 121 | | | 0 | |
| CF | | 2.28E+04 | 1.98E+04 | 2.61E+04 | 2.29E+04 | 14 | 2.40E+04 | 5 | ND | 2.42E+04 | 6 | ND | 0.00E+00 | NA |
| 1,1,2,2-Tetrachloroethane | 16:57 | 2329 | 3992 | 8797 | | | 4138 | | | | | | 0 | |
| CF | | 9.32E+05 | 7.98E+05 | 8.80E+05 | 8.70E+05 | 8 | 8.28E+05 | -5 | ND | 0.00E+00 | NA | ND | 0.00E+00 | NA |

RT = Retention Time
 CF = Calibration Factor
 PID = Photo-Ionization Detector

µg/L = Micrograms per Liter
 µL = Microliters
 µg = Microgram

ARF = Average Response Factor
 RPD = Relative Percent Difference
 LCS = Laboratory Control Sample

ND = Not Detected
 NA = Not Applicable

TABLE B-2
QUALITY ASSURANCE/QUALITY CONTROL REPORT
SUBJECT SITE, CALIFORNIA

3/14/97

FILE 131000A00

| TARGET COMPOUNDS | | February 18, 1997 | | | | | | | March 14, 1997 | | | | | | |
|-------------------------------------|-------|-------------------------|----------|----------|----------|------|----------|-----|----------------|--|----------|----------|-------|--|----------|
| | | THREE-POINT CALIBRATION | | | | | LCS | | MID-POINT | | | LAST RUN | | | |
| STANDARD CONC. (µg/L) | | 5000 | 5000 | 5000 | | | 5000 | | BLANK | | 5000 | | BLANK | | 5000 |
| INJECTION VOLUME(µL) | | 0.50 | 1.00 | 2.00 | | | 1.00 | | 500 | | 1.00 | | 500 | | 1.00 |
| COMPOUND/WEIGHT(µg) | RT | 0.0025 | 0.0050 | 0.0100 | ARF | %RSD | 0.0050 | RPD | | | 0.0050 | RPD | | | 0.0050 |
| Dichlorodifluoromethane | 5:00 | 485 | 859 | 1885 | | | 997 | | | | | | | | 0 |
| CF | | 1.94E+05 | 1.72E+05 | 1.89E+05 | 1.85E+05 | 6 | 1.99E+05 | 8 | ND | | 0.00E+00 | NA | ND | | 0.00E+00 |
| Vinyl chloride | 5:27 | 1037 | 1737 | 3026 | | | 1685 | | | | 1361 | | | | 0 |
| CF | | 4.15E+05 | 3.47E+05 | 3.03E+05 | 3.55E+05 | 16 | 3.33E+05 | -6 | ND | | 2.72E+05 | -23 | ND | | 0.00E+00 |
| Chloroethane | 5:78 | 380 | 552 | 858 | | | 435 | | | | | | | | 0 |
| CF | | 1.52E+05 | 1.10E+05 | 8.58E+04 | 1.16E+05 | 29 | 8.70E+04 | -25 | ND | | 0.00E+00 | NA | ND | | 0.00E+00 |
| Trichlorofluoromethane | 6:08 | 1874 | 3417 | 6137 | | | 3697 | | | | | | | | 0 |
| CF | | 7.50E+05 | 6.83E+05 | 6.14E+05 | 6.82E+05 | 10 | 7.39E+05 | 8 | ND | | 0.00E+00 | NA | ND | | 0.00E+00 |
| 1,1,2-Trichloro-trifluoroethane | 6:50 | 1009 | 1870 | 3395 | | | 2058 | | | | | | | | 0 |
| CF | | 4.04E+05 | 3.74E+05 | 3.40E+05 | 3.72E+05 | 9 | 4.12E+05 | 11 | ND | | 0.00E+00 | NA | ND | | 0.00E+00 |
| 1,1-Dichloroethene | 6:80 | 1755 | 3049 | 5648 | | | 3357 | | | | 2767 | | | | 0 |
| CF | | 7.02E+05 | 6.10E+05 | 5.65E+05 | 6.26E+05 | 11 | 6.71E+05 | 7 | ND | | 5.53E+05 | -12 | ND | | 0.00E+00 |
| Methylene chloride | 7:27 | 1918 | 3366 | 6138 | | | 3737 | | | | | | | | 0 |
| CF | | 7.67E+05 | 6.73E+05 | 6.14E+05 | 6.85E+05 | 11 | 7.47E+05 | 9 | ND | | 0.00E+00 | NA | ND | | 0.00E+00 |
| trans-1,2-Dichloroethene | 7:58 | 1567 | 2747 | 5184 | | | 3129 | | | | 2536 | | | | 0 |
| CF | | 6.27E+05 | 5.49E+05 | 5.18E+05 | 5.65E+05 | 10 | 6.26E+05 | 11 | ND | | 5.07E+05 | -10 | ND | | 0.00E+00 |
| 1,1-Dichloroethane | 8:02 | 2272 | 3786 | 7662 | | | 4188 | | | | 4054 | | | | 0 |
| CF | | 9.09E+05 | 7.57E+05 | 7.66E+05 | 8.11E+05 | 10 | 8.38E+05 | 3 | ND | | 8.11E+05 | 0 | ND | | 0.00E+00 |
| cis-1,2-Dichloroethene | 8:68 | 2307 | 3802 | 7713 | | | 4482 | | | | 3761 | | | | 0 |
| CF | | 9.23E+05 | 7.60E+05 | 7.71E+05 | 8.18E+05 | 11 | 8.96E+05 | 10 | ND | | 7.52E+05 | -8 | ND | | 0.00E+00 |
| Chloroform | 8:87 | 3177 | 5252 | 11010 | | | 6212 | | | | | | | | 0 |
| CF | | 1.27E+06 | 1.05E+06 | 1.10E+06 | 1.14E+06 | 10 | 1.24E+06 | 9 | ND | | 0.00E+00 | NA | ND | | 0.00E+00 |
| 1,1,1-Trichloroethane | 9:35 | 2526 | 4163 | 8665 | | | 4844 | | | | 4516 | | | | 0 |
| CF | | 1.01E+06 | 8.33E+05 | 8.67E+05 | 9.03E+05 | 10 | 9.69E+05 | 7 | ND | | 9.03E+05 | 0 | ND | | 0.00E+00 |
| Carbon tetrachloride | 9:80 | 2024 | 3980 | 8927 | | | 4010 | | | | | | | | 0 |
| CF | | 8.10E+05 | 7.96E+05 | 8.93E+05 | 8.33E+05 | 6 | 8.02E+05 | -4 | ND | | 0.00E+00 | NA | ND | | 0.00E+00 |
| Benzene (PID) | 9:88 | 77 | 142 | 316 | | | 139 | | | | 163 | | | | 0 |
| CF | | 3.08E+04 | 2.84E+04 | 3.16E+04 | 3.03E+04 | 6 | 2.78E+04 | -8 | ND | | 3.26E+04 | 8 | ND | | 0.00E+00 |
| 1,2-Dichloroethane | 9:90 | 5667 | 8497 | 17712 | | | 8163 | | | | 9222 | | | | 0 |
| CF | | 2.27E+06 | 1.70E+06 | 1.77E+06 | 1.91E+06 | 16 | 1.63E+06 | -15 | ND | | 1.84E+06 | -4 | ND | | 0.00E+00 |
| Fluorobenzene (Surrogate) | 10:03 | 40 | 83 | 184 | | | 0 | | | | | | | | 0 |
| CF | | 1.60E+04 | 1.66E+04 | 1.84E+04 | 1.70E+04 | 7 | 0.00E+00 | NA | ND | | 0.00E+00 | NA | ND | | 0.00E+00 |
| Trichloroethene | 10:60 | 2600 | 4242 | 8805 | | | 5064 | | | | 3918 | | | | 0 |
| CF | | 1.04E+06 | 8.48E+05 | 8.81E+05 | 9.23E+05 | 11 | 1.01E+06 | 10 | ND | | 7.84E+05 | -15 | ND | | 0.00E+00 |
| cis-1,3-Dichloropropene (Surrogate) | 11:82 | 1540 | 3263 | 6937 | | | 0 | | | | | | | | 0 |
| CF | | 6.16E+05 | 6.53E+05 | 6.94E+05 | 6.54E+05 | 6 | 0.00E+00 | NA | ND | | 0.00E+00 | NA | ND | | 0.00E+00 |
| Toluene (PID) | 12:38 | 67 | 133 | 297 | | | 133 | | | | 145 | | | | 0 |
| CF | | 2.68E+04 | 2.66E+04 | 2.97E+04 | 2.77E+04 | 6 | 2.66E+04 | -4 | ND | | 2.90E+04 | 5 | ND | | 0.00E+00 |
| 1,1,2-Trichloroethane | 12:85 | 2479 | 4085 | 8839 | | | 4778 | | | | 3927 | | | | 0 |
| CF | | 9.92E+05 | 8.17E+05 | 8.84E+05 | 8.98E+05 | 10 | 9.56E+05 | 6 | ND | | 7.85E+05 | -12 | ND | | 0.00E+00 |
| Tetrachloroethane | 13:43 | 2542 | 4258 | 9022 | | | 4711 | | | | 4041 | | | | 0 |
| CF | | 1.02E+06 | 8.52E+05 | 9.02E+05 | 9.24E+05 | 9 | 9.42E+05 | 2 | ND | | 8.08E+05 | -12 | ND | | 0.00E+00 |
| 1,1,1,2-Tetrachloroethane | 14:80 | 2715 | 4194 | 9296 | | | 4848 | | | | | | | | 0 |
| CF | | 1.09E+06 | 8.39E+05 | 9.30E+05 | 9.51E+05 | 13 | 9.70E+05 | 2 | ND | | 0.00E+00 | NA | ND | | 0.00E+00 |
| Ethylbenzene (PID) | 14:77 | 48 | 124 | 259 | | | 108 | | | | | | | | 0 |
| CF | | 1.92E+04 | 2.48E+04 | 2.59E+04 | 2.33E+04 | 15 | 2.16E+04 | -7 | ND | | 0.00E+00 | NA | ND | | 0.00E+00 |
| m,p-Xylene (PID) | 14:88 | 159 | 317 | 712 | | | 329 | | | | 320 | | | | 0 |
| CF | | 6.36E+04 | 6.34E+04 | 7.12E+04 | 6.61E+04 | 7 | 6.58E+04 | 0 | ND | | 6.40E+04 | -3 | ND | | 0.00E+00 |
| o-Xylene (PID) | 15:68 | 57 | 99 | 261 | | | 120 | | | | 118 | | | | 0 |
| CF | | 2.28E+04 | 1.98E+04 | 2.61E+04 | 2.29E+04 | 14 | 2.40E+04 | 5 | ND | | 2.36E+04 | 3 | ND | | 0.00E+00 |
| 1,1,2,2-Tetrachloroethane | 16:57 | 2329 | 3992 | 8797 | | | 4138 | | | | | | | | 0 |
| CF | | 9.32E+05 | 7.98E+05 | 8.80E+05 | 8.70E+05 | 8 | 8.28E+05 | -5 | ND | | 0.00E+00 | NA | ND | | 0.00E+00 |

RT = Retention Time
 CF = Calibration Factor
 PID = Photo-Ionization Detector

µg/L = Micrograms per Liter
 µL = Microliters
 µg = Microgram

ARF = Average Response Factor
 RPD = Relative Percent Difference
 LCS = Laboratory Control Sample

ND = Not Detected
 NA = Not Applicable

ANALYST: David M. Pride

REVIEWED BY: Ragi Abraham

APPENDIX B
USCS CRITERIA

AGI DATA SHEET 26.1

Unified Soil Classification System

Compiled by B. W. Pipkin, University of Southern California

| MAJOR DIVISIONS | | | GROUP SYMBOLS | TYPICAL NAMES | | |
|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|--------------------|----------------------|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| COARSE-GRAINED SOILS More than half of material is larger than no. 200 sieve size. | GRAVELS More than half of coarse fraction is larger than no. 4 sieve size. | Clean gravels | GW | Well-graded gravels, gravel-sand mixtures, little or no fines. | | |
| | | | GP | Poorly graded gravels, gravel-sand mixtures, little or no fines. | | |
| | | Gravels with fines | GM | Silty gravels, gravel-sand-silt mixtures. | | |
| | | | GC | Clayey gravels, gravel-sand-clay mixtures. | | |
| | SANDS More than half of coarse fraction is smaller than no. 4 sieve size. | Clean sands | SW | Well-graded sands, gravelly sands, little or no fines. | | |
| | | | SP | Poorly graded sands, gravelly sands, little or no fines. | | |
| | | Sands with fines | SM | Silty sands, sand-silt mixtures. | | |
| | | | SC | Clayey sands, sand-clay mixtures. | | |
| FINE-GRAINED SOILS More than half of material is smaller than no. 200 sieve size. | SILTS AND CLAYS | | Low liquid limit. | ML | Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts, with slight plasticity. | |
| | | | | CL | Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays. | |
| | | | | OL | Organic silts and organic silty clays of low plasticity. | |
| | | | High liquid limit. | MH | Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts. | |
| | | | | CH | Inorganic clays of high plasticity, fat clays. | |
| | | | | OH | Organic clays of medium to high plasticity, organic silts. | |
| | | | Highly organic soils | | Pt | Peat and other highly organic silts. |

NOTES:

1. Boundary Classification: Soils possessing characteristics of two groups are designated by combinations of group symbols. For example, GW-GC, well-graded gravel-sand mixture with clay binder.
2. All sieve sizes on this chart are U.S. Standard.
3. The terms "silt" and "clay" are used respectively to distinguish materials exhibiting lower plasticity from those with higher plasticity. The minus no. 200 sieve material is silt if the liquid limit and plasticity index plot below the "A" line on the plasticity chart (next page), and is clay if the liquid limit and plasticity index plot above the "A" line on the chart.
4. For a complete description of the Unified Soil Classification System, see "Technical Memorandum No. 3-357," prepared for Office, Chief of Engineers, by Waterways Equipment Station, Vicksburg, Mississippi, March 1953. (See also Data Sheet 17.)

APPENDIX B
USCS CRITERIA
CONTINENTAL HEAT TREATING
SITE ASSESSMENT REPORT

APPENDIX C
SIEVE ANALYSES RESULTS FOR SOIL SAMPLES

ANAHEIM TEST LABORATORY

300²S. ORANGE AVENUE
SANTA ANA, CALIFORNIA 92707
PHONE (714) 549-7267

TO: EST ENVIRONMENTAL SUPPORT TECH:
23011 MOULTON PARKWAY STE. E-6
LAGUNA HILLS, CA. 92653

ATTN: MICHAEL TYE

DATE: 4-10-97

P.O. No. VERBAL

Shipper No.

Lab. No. B 1514 1-6

Specification:

Material: SOIL

PROJECT: CONTINENTAL HEAT TREATING:

CHT-B1

RESULTS OF SIEVE ANALYSIS TESTING

| SIEVE SIZE | Percent Passing | | | | | |
|---------------|-----------------|----------------|----------------|----------------|----------------|----------------|
| | No. 1 @ 10' | No. 2 @ 20' | No. 3 @ 30' | No. 4 @ 40' | No. 5 @ 50' | No. 6 @ 60' |
| #4 | 100 | 100 | 100 | 100 | 100 | 100 |
| #8 | 100 | 97 | 100 | 98 | 100 | 99 |
| #16 | 99 | 95 | 100 | 96 | 100 | 95 |
| #30 | 97 | 94 | 99 | 93 | 100 | 89 |
| #50 | 86 | 92 | 96 | 88 | 99 | 84 |
| #100 | 68 | 91 | 88 | 78 | 94 | 80 |
| #200 | 51 | 78 | 78 | 64 | 52 | 77 |

RESPECTFULLY SUBMITTED

ANAHEIM TEST LABORATORY

POPPY BRIDGER

APPENDIX D
SOIL BORING LOG

SOIL BORING LOG

p.1 of 2

05/06/97

CHT BORING LOG

ENVIRONMENTAL SUPPORT TECHNOLOGIES, INC.
23011 MOULTON PARKWAY, SUITE E-6
LAGUNA HILLS, CALIFORNIA 92653
(714) 457-9664

| | |
|-----------------------------------------|---------------------------------------------------------------------|
| PROJECT NAME: Continental Heat Treating | BORING NUMBER: CHT-B1 |
| PROJECT No: EST1315 | BORING LOGGED BY: M. Tye |
| DATE: 3/27/97 | DRILLING CONTRACTOR: Discovery Drilling |
| BEGIN DRILLING: 8:53 AM | DRILLING METHOD: CME-55 with 10.5-inch O.D. augers |
| END DRILLING: 12:11 PM | SITE LOCATION: 10643 South Norwalk Boulevard, Santa Fe Springs, CA. |

| TIME | DEPTH | BLOW COUNTS | PERCENT RECOVERY | TOVs (ppm) | LITHOLOGIC DESCRIPTION | USCS SOIL TYPE | LAB SAMPLE |
|-------|-------|----------------|------------------|------------------------|------------------------------------------------------------------------------------------|----------------|----------------|
| 7:40 | 0' | N/A | N/A | N/A | Surface = Concrete, approximately 5-inches-thick, hand-auger (HA) to 4-feet below grade. | N/A | N/A |
| 7:42 | 1' | N/A | HA Cuttings | 54 ppm as isobutylene | Silty fine sand, brown (10YR 4/3), well-sorted, moist, no odor. | SM | N/A |
| 8:57 | 5' | 21-27-35 (62) | 100% | 70 ppm as isobutylene | Clayey-silt with fine sand, brown (10YR 4/3), well-sorted very-dense, moist. | SM-ML | EPA 8021 |
| 9:10 | 10' | 20-24-45 (69) | 100% | 56 ppm as isobutylene | Clayey-silt with fine sand, brown (10YR 4/3), well-sorted very-dense, moist. | SM-ML | EPA 8021 SIEVE |
| 9:24 | 15' | 30-40-70 (110) | 100% | 267 ppm as isobutylene | Silt, light brownish-gray (10YR 6/2), well-sorted, very-dense, moist. | ML | EPA 8021 |
| 9:33 | 20' | 27-35-70 (105) | 100% | 45 ppm as isobutylene | Silty clay, light brownish-gray (10YR 6/2), well-sorted, very-dense, moist. | ML-CL | EPA 8021 SIEVE |
| 9:45 | 25' | 25-25-50 (75) | 100% | 48 ppm as isobutylene | Silty clay, pale brown (10YR 6/3), well-sorted, very-dense, moist. | ML-CL | EPA 8021 |
| 9:58 | 30' | 28-27-55 (82) | 100% | 114 ppm as isobutylene | Silty clay, pale brown (10YR 6/3), well-sorted, very-dense, moist. | ML-CL | EPA 8021 SIEVE |
| 10:06 | 35' | 19-20-47 (67) | 100% | 50 ppm as isobutylene | Silty clay, pale brown (10YR 6/3), well-sorted, very-dense, moist. | ML-CL | EPA 8021 |
| 10:20 | 40' | 17-19-45 (64) | 100% | 59 ppm as isobutylene | Silt, brown (10YR 4/3), well-sorted, very-dense, moist. | ML | EPA 8021 SIEVE |
| 10:38 | 45' | 20-22-52 (74) | 100% | 135 ppm as isobutylene | Silt, brown (10YR 4/3), well-sorted, very-dense, moist. | ML | EPA 8021 |
| 11:25 | 50' | 24-27-59 (86) | 100% | 53 ppm as isobutylene | Silty clay, pale brown (10YR 6/3), well-sorted, very-dense, moist. | ML-CL | EPA 8021 SIEVE |

HSA = hollow-stem auger
TOV = total organic vapors
LAB = soil sample analyzed by certified laboratory
EPA 8021 = sample analyzed for VOCs
ppm = parts per million
(xx) = sum of last two blow counts

NS = not sampled
USCS = United Soil Classification System
ND = not detected
Archived = soil sample archived at laboratory
N/A = not applicable
SIEVE = sieve analysis performed

1) USCS Classifications are field derived.

2) Color designations are Munsell.

3) Subsurface information from boring logs depict conditions only at specific locations and dates indicated. Soil conditions at other locations may differ from conditions at these locations. Also the conditions at these locations may change with time.

Prepared by Michael Tye

Reviewed by R. A. Thomson

SOIL BORING LOG

05/06/97

CHT BORING LOG (p.2)

ENVIRONMENTAL SUPPORT TECHNOLOGIES, INC.
23011 MOULTON PARKWAY, SUITE E-6
LAGUNA HILLS, CALIFORNIA 92653
(714) 457-9664

| PROJECT NAME: Continental Heat Treating | | | | | BORING NUMBER: CHT-B1 | | | |
|-----------------------------------------|-------|--------------------|---------------------|------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------|
| PROJECT No: EST1315 | | | | | BORING LOGGED BY: M. Tye | | | |
| DATE: 3/27/97 | | | | | DRILLING CONTRACTOR: Discovery Drilling | | | |
| BEGIN DRILLING: 8:53 AM | | | | | DRILLING METHOD: CME-55 with 10.5-inch O.D. augers | | | |
| END DRILLING: 12:11 PM | | | | | SITE LOCATION: 10643 South Norwalk Boulevard, Santa Fe Springs, CA. | | | |
| TIME | DEPTH | BLOW COUNTS | PERCENT RECOVERY | TOVs (ppm) | | LITHOLOGIC DESCRIPTION | USCS SOIL TYPE | LAB SAMPLE |
| 11:37 | 55' | 20-25-28 (53) | 100% | 115 ppm as isobutylene | | Clayey-silt, grayish-brown (10YR 5/2), well-sorted, very-dense, moist. | ML-CL | EPA 8021 |
| 11:56 | 60' | 17-20-42 (62) | 100% | 25 ppm as isobutylene | | Clayey-silt, grayish-brown (10YR 5/2), well-sorted, very-dense, moist. | ML-CL | EPA 8021 SIEVE |
| 12:08 | 65' | 35-50-100 (150) | 100% | 19 ppm as isobutylene | | Medium sand with silt, gray (10YR 6/1), well-sorted, very-dense, very moist. | SM | EPA 8021 |
| 12:11 | 68' | 32-45-80 (125) | 100% | 15 ppm as isobutylene | | Medium sand with silt, gray (10YR 6/1), well-sorted, very-dense, wet. | SM | N/A |
| | | | | | | DISCONTINUE DRILLING AND SOIL SAMPLING. | | |
| | | | | | | Total depth of boring CHT-B1 approximately 68-feet below grade, commence installation of nested soil gas probes at 60 and 50 feet below grade, and installation of 45-foot-deep vapor extraction well. | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

HSA = hollow-stem auger
TOV = total organic vapors
LAB = soil sample analyzed by certified laboratory
EPA 8021 = sample analyzed for VOCs
ppm = parts per million
(xx) = sum of last two blow counts

1) USCS Classifications are field derived.

NS = not sampled
USCS = United Soil Classification System
ND = not detected
Archived = soil sample archived at laboratory
N/A = not applicable
SIEVE = sieve analysis performed

2) Color designations are Munsell.

3) Subsurface information from boring logs depict conditions only at specific locations and dates indicated.
Soil conditions at other locations may differ from conditions at these locations. Also the conditions at these
locations may change with time.

Prepared by Michael Tye

Reviewed by K.A. Thomson

APPENDIX E

**LABORATORY ANALYSES REPORTS
AND CHAIN-OF-CUSTODY FORM
FOR SOIL SAMPLES**



Date: 4/4/97

Environmental Support Technologies, Inc.
23011 Moulton Parkway, Suite E-6
Laguna Hills, CA 92653
Attention: Mr. Kirk Thomson

Client Project Number: Continental Heat Treating
Date Sampled: 3/27/97
Date Samples Received: 3/28/97
Sierra Project No.: 9703-296


Attached are the results of the chemo-physical analysis of the sample(s) from the project identified above.

The samples were received by Sierra Laboratories, Inc. with a chain of custody record attached or completed at the submittal of the samples.

The analysis were performed according to the prescribed method as outlined by EPA, Standard Methods, and A.S.T.M.

The remaining portions of the samples will be disposed of within 30 days from the date of this report. If you require additional retaining time, please advise us.


Richard K. Forsyth
Laboratory Director


Reviewed

This report is applicable only to the sample received by the laboratory. The liability of the laboratory is limited to the amount paid for this report. This report is for the exclusive use of the client to whom it is addressed and upon the condition that the client assumes all liability for the further distribution of the report or its contents.

| | | | |
|-------------------------------------------------|---------------------------|-----------------------|---------|
| Environmental Support Technologies, Inc. | | Date Sampled: | 3/27/97 |
| 23011 Moulton Parkway, Suite E-6 | | Date Received: | 3/28/97 |
| Laguna Hills, CA 92653 | | Date Prepared: | 4/1/97 |
| | | Date Analyzed: | 4/1/97 |
| Sierra Project No.: | 9703-296 | Analyst: | SM |
| Client Project ID: | Continental Heat Treating | Report Date: | 4/4/97 |
| Sample Matrix: | Soil | | |

**HALOGENATED AND AROMATIC VOLATILE ORGANICS
EPA METHOD 8021**

| Client Sample No.: | Concentration, µg/kg | | | | Method Detection Limit, µg/kg |
|-----------------------------|----------------------|------------|------------|------------|----------------------------------------|
| | CHT-B1-5' | CHT-B1-10' | CHT-B1-15' | CHT-B1-20' | |
| Sierra Sample No.: | 4563 | 4564 | 4565 | 4566 | |
| COMPOUNDS: | | | | | |
| Benzene | ND | ND | ND | ND | 3 |
| Bromobenzene | ND | ND | ND | ND | 3 |
| Bromochloromethane | ND | ND | ND | ND | 3 |
| Bromodichloromethane | ND | ND | ND | ND | 3 |
| Bromoform | ND | ND | ND | ND | 3 |
| Bromomethane | ND | ND | ND | ND | 3 |
| n- Butylbenzene | ND | ND | ND | ND | 3 |
| sec-Butylbenzene | ND | ND | ND | ND | 3 |
| tert-Butylbenzene | ND | ND | ND | ND | 3 |
| Carbon tetrachloride | ND | ND | ND | ND | 3 |
| Chlorobenzene | ND | ND | ND | ND | 3 |
| Chlorodibromomethane | ND | ND | ND | ND | 3 |
| Chloroethane | ND | ND | ND | ND | 3 |
| Chloroform | ND | ND | ND | ND | 3 |
| Chloromethane | ND | ND | ND | ND | 3 |
| 2-Chlorotoluene | ND | ND | ND | ND | 3 |
| 4-Chlorotoluene | ND | ND | ND | ND | 3 |
| 1,2-Dibromo-3-chloropropane | ND | ND | ND | ND | 3 |
| 1,2-Dibromoethane | ND | ND | ND | ND | 3 |
| Dibromomethane | ND | ND | ND | ND | 3 |
| 1,2-Dichlorobenzene | ND | ND | ND | ND | 3 |
| 1,3-Dichlorobenzene | ND | ND | ND | ND | 3 |
| 1,4-Dichlorobenzene | ND | ND | ND | ND | 3 |
| Dichlorodifluoromethane | ND | ND | ND | ND | 3 |
| 1,1-Dichloroethane | ND | ND | ND | ND | 3 |

CONTINUED

| | | | |
|-------------------------------------------------|---------------------------|-----------------------|---------|
| Environmental Support Technologies, Inc. | | Date Sampled: | 3/27/97 |
| 23011 Moulton Parkway, Suite E-6 | | Date Received: | 3/28/97 |
| Laguna Hills, CA 92653 | | Date Prepared: | 4/1/97 |
| Sierra Project No.: | | Date Analyzed: | 4/1/97 |
| Sierra Project No.: | 9703-296 | Analyst: | SM |
| Client Project ID: | Continental Heat Treating | Report Date: | 4/4/97 |
| Sample Matrix: | Soil | | |

EPA METHOD 8021 CONTINUED

| Client Sample No.: | Concentration, µg/kg | | | | Method Detection Limit, µg/kg |
|---------------------------|----------------------|------------|------------|------------|----------------------------------------|
| | CHT-B1-5' | CHT-B1-10' | CHT-B1-15' | CHT-B1-20' | |
| Sierra Sample No.: | 4563 | 4564 | 4565 | 4566 | |
| COMPOUNDS: | | | | | |
| 1,2-Dichloroethane | ND | ND | ND | ND | 3 |
| 1,1-Dichloroethene | ND | ND | ND | ND | 3 |
| cis-1,2-Dichloroethene | ND | ND | ND | ND | 3 |
| trans-1,2-Dichloroethene | ND | 33 | 63 | 57 | 3 |
| 1,2-Dichloropropane | ND | ND | ND | ND | 3 |
| 1,3-Dichloropropane | ND | ND | ND | ND | 3 |
| 2,2-Dichloropropane | ND | ND | ND | ND | 3 |
| 1,1-Dichloropropene | ND | ND | ND | ND | 3 |
| cis-1,3-dichloropropene | ND | ND | ND | ND | 3 |
| trans-1,3-dichloropropene | ND | ND | ND | ND | 3 |
| Ethylbenzene | ND | ND | ND | ND | 3 |
| Hexachlorobutadiene | ND | ND | ND | ND | 3 |
| Isopropylbenzene | ND | ND | ND | ND | 3 |
| p-Isopropyltoluene | ND | ND | ND | ND | 3 |
| Methylene chloride | ND | ND | ND | ND | 3 |
| Naphthalene | ND | ND | ND | ND | 3 |
| n-Propylbenzene | ND | ND | ND | ND | 3 |
| Styrene | ND | ND | ND | ND | 3 |
| 1,1,1,2-Tetrachloroethane | ND | ND | ND | ND | 3 |
| 1,1,2,2-Tetrachloroethane | ND | ND | ND | ND | 3 |
| Tetrachloroethene | 40 | 31 | 110 | 42 | 3 |
| Toluene | ND | ND | ND | ND | 3 |
| 1,2,3-Trichlorobenzene | ND | ND | ND | ND | 3 |
| 1,2,4-Trichlorobenzene | ND | ND | ND | ND | 3 |
| 1,1,1-Trichloroethane | ND | ND | ND | ND | 3 |
| 1,1,2-Trichloroethane | ND | ND | ND | ND | 3 |

CONTINUED

| | | | |
|------------------------------------------|---------------------------|----------------|---------|
| Environmental Support Technologies, Inc. | | Date Sampled: | 3/27/97 |
| 23011 Moulton Parkway, Suite E-6 | | Date Received: | 3/28/97 |
| Laguna Hills, CA 92653 | | Date Prepared: | 4/1/97 |
| Sierra Project No.: 9703-296 | | Date Analyzed: | 4/1/97 |
| Client Project ID: | Continental Heat Treating | Analyst: | SM |
| Sample Matrix: | Soil | Report Date: | 4/4/97 |

EPA METHOD 8021 CONTINUED

| Concentration, µg/kg | | | | | Method Detection Limit, µg/kg |
|---------------------------------------------------|-----------|------------|------------|------------|----------------------------------------|
| Client Sample No.: | CHT-B1-5' | CHT-B1-10' | CHT-B1-15' | CHT-B1-20' | |
| Sierra Sample No.: | 4563 | 4564 | 4565 | 4566 | |
| COMPOUNDS: | | | | | |
| Trichloroethene | 20 | 9.6 | 17 | 14 | 3 |
| Trichlorofluoromethane | ND | ND | ND | ND | 3 |
| 1,2,3-Trichloropropane | ND | ND | ND | ND | 3 |
| 1,2,4-Trimethylbenzene | ND | ND | ND | ND | 3 |
| 1,3,5-Trimethylbenzene | ND | ND | ND | ND | 3 |
| Vinyl chloride | ND | ND | ND | ND | 3 |
| Total Xylenes | ND | ND | ND | ND | 3 |
| Dilution Factor | 1 | 1 | 1 | 1 | QC Limits |
| % Surrogate Recovery: 1-chloro-2-fluorobenzene | 81 | 81 | 82 | 80 | 30-135 |

| Quality Assurance/Quality Control Data | | | | | | | |
|----------------------------------------|---------------|--------------|-----------------|---------------------|--------------|-----|--------------|
| QC Sample ID: 9703-296-4575 | | | | | | | |
| Compounds | LCS % Rec. | QC Limits | Spike % Rec. | Spike Dup % Rec. | QC Limits | RPD | QC Limits |
| 1,1 Dichloroethane | 102 | 80-120 | 102 | 104 | 47-132 | 1.2 | 0-30 |
| Carbon Tetrachloride | 102 | 80-120 | 105 | 106 | 43-143 | 0.5 | 0-30 |
| Bromoform | 110 | 80-120 | 110 | 108 | 13-159 | 2.3 | 0-30 |
| Benzene | 105 | 80-120 | 105 | 102 | 39-150 | 2.4 | 0-30 |
| Toluene | 105 | 80-120 | 105 | 102 | 46-148 | 2.4 | 0-30 |
| Ethylbenzene | 102 | 80-120 | 102 | 103 | 32-160 | 0.5 | 0-30 |

ND means Not Detected

Reporting Limit (RL) = Method Detection Limit (MDL) x Dilution Factor

Environmental Support Technologies, Inc.
23011 Moulton Parkway, Suite E-6
Laguna Hills, CA 92653

Date Sampled: 3/27/97

Date Received: 3/28/97

Date Prepared: 4/1/97

Date Analyzed: 4/1/97

Sierra Project No.: 9703-296

Analyst: SM

Client Project ID: Continental Heat Treating

Sample Matrix: Soil

Report Date: 4/4/97

**HALOGENATED AND AROMATIC VOLATILE ORGANICS
EPA METHOD 8021**

| Concentration, µg/kg | | | | | |
|-----------------------------|------------|------------|------------|------------|-------------------------------|
| Client Sample No.: | CHT-B1-25' | CHT-B1-30' | CHT-B1-35' | CHT-B1-40' | Method Detection Limit, µg/kg |
| Sierra Sample No.: | 4567 | 4568 | 4569 | 4570 | |
| COMPOUNDS: | | | | | |
| Benzene | ND | ND | ND | ND | 3 |
| Bromobenzene | ND | ND | ND | ND | 3 |
| Bromochloromethane | ND | ND | ND | ND | 3 |
| Bromodichloromethane | ND | ND | ND | ND | 3 |
| Bromoform | ND | ND | ND | ND | 3 |
| Bromomethane | ND | ND | ND | ND | 3 |
| n- Butylbenzene | ND | ND | ND | ND | 3 |
| sec-Butylbenzene | ND | ND | ND | ND | 3 |
| tert-Butylbenzene | ND | ND | ND | ND | 3 |
| Carbon tetrachloride | ND | ND | ND | ND | 3 |
| Chlorobenzene | ND | ND | ND | ND | 3 |
| Chlorodibromomethane | ND | ND | ND | ND | 3 |
| Chloroethane | ND | ND | ND | ND | 3 |
| Chloroform | ND | ND | ND | ND | 3 |
| Chloromethane | ND | ND | ND | ND | 3 |
| 2-Chlorotoluene | ND | ND | ND | ND | 3 |
| 4-Chlorotoluene | ND | ND | ND | ND | 3 |
| 1,2-Dibromo-3-chloropropane | ND | ND | ND | ND | 3 |
| 1,2-Dibromoethane | ND | ND | ND | ND | 3 |
| Dibromomethane | ND | ND | ND | ND | 3 |
| 1,2-Dichlorobenzene | ND | ND | ND | ND | 3 |
| 1,3-Dichlorobenzene | ND | ND | ND | ND | 3 |
| 1,4-Dichlorobenzene | ND | ND | ND | ND | 3 |
| Dichlorodifluoromethane | ND | ND | ND | ND | 3 |
| 1,1-Dichloroethane | ND | ND | ND | ND | 3 |

CONTINUED

| | | | |
|-------------------------------------------------|---------------------------|-----------------------|---------|
| Environmental Support Technologies, Inc. | | Date Sampled: | 3/27/97 |
| 23011 Moulton Parkway, Suite E-6 | | Date Received: | 3/28/97 |
| Laguna Hills, CA 92653 | | Date Prepared: | 4/1/97 |
| Sierra Project No.: 9703-296 | | Date Analyzed: | 4/1/97 |
| Client Project ID: | Continental Heat Treating | Analyst: | SM |
| Sample Matrix: | Soil | Report Date: | 4/4/97 |

EPA METHOD 8021 CONTINUED

| Client Sample No.: | Concentration, µg/kg | | | | Method Detection Limit, µg/kg |
|---------------------------|----------------------|------------|------------|------------|----------------------------------------|
| | CHT-B1-25' | CHT-B1-30' | CHT-B1-35' | CHT-B1-40' | |
| Sierra Sample No.: | 4567 | 4568 | 4569 | 4570 | |
| COMPOUNDS: | | | | | |
| 1,2-Dichloroethane | ND | ND | ND | ND | 3 |
| 1,1-Dichloroethene | ND | ND | ND | ND | 3 |
| cis-1,2-Dichloroethene | ND | 17 | ND | ND | 3 |
| trans-1,2-Dichloroethene | ND | ND | ND | ND | 3 |
| 1,2-Dichloropropane | ND | ND | ND | ND | 3 |
| 1,3-Dichloropropane | ND | ND | ND | ND | 3 |
| 2,2-Dichloropropane | ND | ND | ND | ND | 3 |
| 1,1-Dichloropropene | ND | ND | ND | ND | 3 |
| cis-1,3-dichloropropene | ND | ND | ND | ND | 3 |
| trans-1,3-dichloropropene | ND | ND | ND | ND | 3 |
| Ethylbenzene | ND | ND | ND | ND | 3 |
| Hexachlorobutadiene | ND | ND | ND | ND | 3 |
| Isopropylbenzene | ND | ND | ND | ND | 3 |
| p-Isopropyltoluene | ND | ND | ND | ND | 3 |
| Methylene chloride | ND | ND | ND | ND | 3 |
| Naphthalene | ND | ND | ND | ND | 3 |
| n-Propylbenzene | ND | ND | ND | ND | 3 |
| Styrene | ND | ND | ND | ND | 3 |
| 1,1,1,2-Tetrachloroethane | ND | ND | ND | ND | 3 |
| 1,1,2,2-Tetrachloroethane | ND | ND | ND | ND | 3 |
| Tetrachloroethene | 29 | 50 | 8.4 | 16 | 3 |
| Toluene | ND | ND | ND | ND | 3 |
| 1,2,3-Trichlorobenzene | ND | ND | ND | ND | 3 |
| 1,2,4-Trichlorobenzene | ND | ND | ND | ND | 3 |
| 1,1,1-Trichloroethane | ND | ND | ND | ND | 3 |
| 1,1,2-Trichloroethane | ND | ND | ND | ND | 3 |

CONTINUED

| | | | |
|-------------------------------------------------|---------------------------|-----------------------|---------|
| Environmental Support Technologies, Inc. | | Date Sampled: | 3/27/97 |
| 23011 Moulton Parkway, Suite E-6 | | Date Received: | 3/28/97 |
| Laguna Hills, CA 92653 | | Date Prepared: | 4/1/97 |
| | | Date Analyzed: | 4/1/97 |
| Sierra Project No.: | 9703-296 | Analyst: | SM |
| Client Project ID: | Continental Heat Treating | | |
| Sample Matrix: | Soil | Report Date: | 4/4/97 |

EPA METHOD 8021 CONTINUED

| Concentration, µg/kg | | | | | Method Detection Limit, µg/kg |
|---------------------------------------------------|------------|------------|------------|------------|----------------------------------------|
| Client Sample No.: | CHT-B1-25' | CHT-B1-30' | CHT-B1-35' | CHT-B1-40' | |
| Sierra Sample No.: | 4567 | 4568 | 4569 | 4570 | |
| COMPOUNDS: | | | | | |
| Trichloroethene | 7.0 | 9.4 | ND | 3.0 | 3 |
| Trichlorofluoromethane | ND | ND | ND | ND | 3 |
| 1,2,3-Trichloropropane | ND | ND | ND | ND | 3 |
| 1,2,4-Trimethylbenzene | ND | ND | ND | ND | 3 |
| 1,3,5-Trimethylbenzene | ND | ND | ND | ND | 3 |
| Vinyl chloride | ND | ND | ND | ND | 3 |
| Total Xylenes | ND | ND | ND | ND | 3 |
| Dilution Factor | 1 | 1 | 1 | 1 | QC Limits |
| % Surrogate Recovery: 1-chloro-2-fluorobenzene | 75 | 78 | 85 | 80 | 30-135 |

| Quality Assurance/Quality Control Data | | | | | | | |
|----------------------------------------|---------------|--------------|-----------------|---------------------|--------------|-----|--------------|
| QC Sample ID: 9703-296-4575 | | | | | | | |
| Compounds | LCS % Rec. | QC Limits | Spike % Rec. | Spike Dup % Rec. | QC Limits | RPD | QC Limits |
| 1,1 Dichloroethane | 102 | 80-120 | 102 | 104 | 47-132 | 1.2 | 0-30 |
| Carbon Tetrachloride | 102 | 80-120 | 105 | 106 | 43-143 | 0.5 | 0-30 |
| Bromoform | 110 | 80-120 | 110 | 108 | 13-159 | 2.3 | 0-30 |
| Benzene | 105 | 80-120 | 105 | 102 | 39-150 | 2.4 | 0-30 |
| Toluene | 105 | 80-120 | 105 | 102 | 46-148 | 2.4 | 0-30 |
| Ethylbenzene | 102 | 80-120 | 102 | 103 | 32-160 | 0.5 | 0-30 |

ND means Not Detected

Reporting Limit (RL) = Method Detection Limit (MDL) x Dilution Factor

Environmental Support Technologies, Inc.
23011 Moulton Parkway, Suite E-6
Laguna Hills, CA 92653

Date Sampled: 3/27/97

Date Received: 3/28/97

Date Prepared: 4/1/97

Date Analyzed: 4/1/97

Sierra Project No.: 9703-296

Analyst: SM

Client Project ID: Continental Heat Treating

Sample Matrix: Soil

Report Date: 4/4/97

HALOGENATED AND AROMATIC VOLATILE ORGANICS
EPA METHOD 8021

| Client Sample No.: | Concentration, µg/kg | | | | Method Detection Limit, µg/kg |
|-----------------------------|----------------------|------------|------------|------------|----------------------------------------|
| | CHT-B1-45' | CHT-B1-50' | CHT-B1-55' | CHT-B1-60' | |
| Sierra Sample No.: | 4571 | 4572 | 4573 | 4574 | |
| COMPOUNDS: | | | | | |
| Benzene | ND | ND | ND | ND | 3 |
| Bromobenzene | ND | ND | ND | ND | 3 |
| Bromochloromethane | ND | ND | ND | ND | 3 |
| Bromodichloromethane | ND | ND | ND | ND | 3 |
| Bromoform | ND | ND | ND | ND | 3 |
| Bromomethane | ND | ND | ND | ND | 3 |
| n- Butylbenzene | ND | ND | ND | ND | 3 |
| sec-Butylbenzene | ND | ND | ND | ND | 3 |
| tert-Butylbenzene | ND | ND | ND | ND | 3 |
| Carbon tetrachloride | ND | ND | ND | ND | 3 |
| Chlorobenzene | ND | ND | ND | ND | 3 |
| Chlorodibromomethane | ND | ND | ND | ND | 3 |
| Chloroethane | ND | ND | ND | ND | 3 |
| Chloroform | ND | ND | ND | ND | 3 |
| Chloromethane | ND | ND | ND | ND | 3 |
| 2-Chlorotoluene | ND | ND | ND | ND | 3 |
| 4-Chlorotoluene | ND | ND | ND | ND | 3 |
| 1,2-Dibromo-3-chloropropane | ND | ND | ND | ND | 3 |
| 1,2-Dibromoethane | ND | ND | ND | ND | 3 |
| Dibromomethane | ND | ND | ND | ND | 3 |
| 1,2-Dichlorobenzene | ND | ND | ND | ND | 3 |
| 1,3-Dichlorobenzene | ND | ND | ND | ND | 3 |
| 1,4-Dichlorobenzene | ND | ND | ND | ND | 3 |
| Dichlorodifluoromethane | ND | ND | ND | ND | 3 |
| 1,1-Dichloroethane | ND | ND | ND | ND | 3 |

CONTINUED

| | | | |
|-------------------------------------------------|---------------------------|-----------------------|---------|
| Environmental Support Technologies, Inc. | | Date Sampled: | 3/27/97 |
| 23011 Moulton Parkway, Suite E-6 | | Date Received: | 3/28/97 |
| Laguna Hills, CA 92653 | | Date Prepared: | 4/1/97 |
| | | Date Analyzed: | 4/1/97 |
| Sierra Project No.: | 9703-296 | Analyst: | SM |
| Client Project ID: | Continental Heat Treating | | |
| Sample Matrix: | Soil | Report Date: | 4/4/97 |

EPA METHOD 8021 CONTINUED

| Client Sample No.: | Concentration, µg/kg | | | | Method Detection Limit, µg/kg |
|---------------------------|----------------------|------------|------------|------------|----------------------------------------|
| | CHT-B1-45' | CHT-B1-50' | CHT-B1-55' | CHT-B1-60' | |
| Sierra Sample No.: | 4571 | 4572 | 4573 | 4574 | |
| COMPOUNDS: | | | | | |
| 1,2-Dichloroethane | ND | ND | ND | ND | 3 |
| 1,1-Dichloroethene | ND | ND | ND | ND | 3 |
| cis-1,2-Dichloroethene | ND | 17 | ND | ND | 3 |
| trans-1,2-Dichloroethene | ND | ND | ND | ND | 3 |
| 1,2-Dichloropropane | ND | ND | ND | ND | 3 |
| 1,3-Dichloropropane | ND | ND | ND | ND | 3 |
| 2,2-Dichloropropane | ND | ND | ND | ND | 3 |
| 1,1-Dichloropropene | ND | ND | ND | ND | 3 |
| cis-1,3-dichloropropene | ND | ND | ND | ND | 3 |
| trans-1,3-dichloropropene | ND | ND | ND | ND | 3 |
| Ethylbenzene | ND | ND | ND | ND | 3 |
| Hexachlorobutadiene | ND | ND | ND | ND | 3 |
| Isopropylbenzene | ND | ND | ND | ND | 3 |
| p-Isopropyltoluene | ND | ND | ND | ND | 3 |
| Methylene chloride | ND | ND | ND | ND | 3 |
| Naphthalene | ND | ND | ND | ND | 3 |
| n-Propylbenzene | ND | ND | ND | ND | 3 |
| Styrene | ND | ND | ND | ND | 3 |
| 1,1,1,2-Tetrachloroethane | ND | ND | ND | ND | 3 |
| 1,1,2,2-Tetrachloroethane | ND | ND | ND | ND | 3 |
| Tetrachloroethene | 27 | 4.8 | 5.2 | 130 | 3 |
| Toluene | ND | ND | ND | 6.5 | 3 |
| 1,2,3-Trichlorobenzene | ND | ND | ND | ND | 3 |
| 1,2,4-Trichlorobenzene | ND | ND | ND | ND | 3 |
| 1,1,1-Trichloroethane | ND | ND | ND | ND | 3 |
| 1,1,2-Trichloroethane | ND | ND | ND | ND | 3 |

CONTINUED

| | | | |
|------------------------------------------|---------------------------|----------------|---------|
| Environmental Support Technologies, Inc. | | Date Sampled: | 3/27/97 |
| 23011 Moulton Parkway, Suite E-6 | | Date Received: | 3/28/97 |
| Laguna Hills, CA 92653 | | Date Prepared: | 4/1/97 |
| | | Date Analyzed: | 4/1/97 |
| Sierra Project No.: | 9703-296 | Analyst: | SM |
| Client Project ID: | Continental Heat Treating | | |
| Sample Matrix: | Soil | Report Date: | 4/4/97 |

EPA METHOD 8021 CONTINUED

| Concentration, µg/kg | | | | | Method Detection Limit, µg/kg |
|---------------------------------------------------|------------|------------|------------|------------|----------------------------------------|
| Client Sample No.: | CHT-B1-45' | CHT-B1-50' | CHT-B1-55' | CHT-B1-60' | |
| Sierra Sample No.: | 4571 | 4572 | 4573 | 4574 | |
| COMPOUNDS: | | | | | |
| Trichloroethene | 4.0 | ND | ND | 7.7 | 3 |
| Trichlorofluoromethane | ND | ND | ND | ND | 3 |
| 1,2,3-Trichloropropane | ND | ND | ND | ND | 3 |
| 1,2,4-Trimethylbenzene | ND | ND | ND | ND | 3 |
| 1,3,5-Trimethylbenzene | ND | ND | ND | ND | 3 |
| Vinyl chloride | ND | ND | ND | ND | 3 |
| Total Xylenes | ND | ND | ND | ND | 3 |
| Dilution Factor | 1 | 1 | 1 | 1 | QC Limits |
| % Surrogate Recovery: 1-chloro-2-fluorobenzene | 83 | 85 | 96 | 95 | 30-135 |

| Quality Assurance/Quality Control Data | | | | | | | |
|----------------------------------------|---------------|--------------|-----------------|---------------------|--------------|-----|--------------|
| QC Sample ID: 9703-296-4575 | | | | | | | |
| Compounds | LCS % Rec. | QC Limits | Spike % Rec. | Spike Dup % Rec. | QC Limits | RPD | QC Limits |
| 1,1 Dichloroethane | 102 | 80-120 | 102 | 104 | 47-132 | 1.2 | 0-30 |
| Carbon Tetrachloride | 102 | 80-120 | 105 | 106 | 43-143 | 0.5 | 0-30 |
| Bromoform | 110 | 80-120 | 110 | 108 | 13-159 | 2.3 | 0-30 |
| Benzene | 105 | 80-120 | 105 | 102 | 39-150 | 2.4 | 0-30 |
| Toluene | 105 | 80-120 | 105 | 102 | 46-148 | 2.4 | 0-30 |
| Ethylbenzene | 102 | 80-120 | 102 | 103 | 32-160 | 0.5 | 0-30 |

ND means Not Detected

Reporting Limit (RL) = Method Detection Limit (MDL) x Dilution Factor

| | | | |
|----------------------------------------------|--|----------------|---------|
| Environmental Support Technologies, Inc. | | Date Sampled: | 3/27/97 |
| 23011 Moulton Parkway, Suite E-6 | | Date Received: | 3/28/97 |
| Laguna Hills, CA 92653 | | Date Prepared: | 4/1/97 |
| Sierra Project No.: 9703-296 | | Date Analyzed: | 4/1/97 |
| Client Project ID: Continental Heat Treating | | Analyst: | SM |
| Sample Matrix: Soil | | Report Date: | 4/4/97 |

**HALOGENATED AND AROMATIC VOLATILE ORGANICS
EPA METHOD 8021**

| | | Concentration, µg/kg | | | Method Detection Limit, µg/kg |
|-----------------------------|------------|----------------------|--|--|----------------------------------------|
| Client Sample No.: | CHT-B1-65' | | | | |
| Sierra Sample No.: | 4575 | | | | |
| COMPOUNDS: | | | | | |
| Benzene | ND | | | | 3 |
| Bromobenzene | ND | | | | 3 |
| Bromochloromethane | ND | | | | 3 |
| Bromodichloromethane | ND | | | | 3 |
| Bromoform | ND | | | | 3 |
| Bromomethane | ND | | | | 3 |
| n- Butylbenzene | ND | | | | 3 |
| sec-Butylbenzene | ND | | | | 3 |
| tert-Butylbenzene | ND | | | | 3 |
| Carbon tetrachloride | ND | | | | 3 |
| Chlorobenzene | ND | | | | 3 |
| Chlorodibromomethane | ND | | | | 3 |
| Chloroethane | ND | | | | 3 |
| Chloroform | ND | | | | 3 |
| Chloromethane | ND | | | | 3 |
| 2-Chlorotoluene | ND | | | | 3 |
| 4-Chlorotoluene | ND | | | | 3 |
| 1,2-Dibromo-3-chloropropane | ND | | | | 3 |
| 1,2-Dibromoethane | ND | | | | 3 |
| Dibromomethane | ND | | | | 3 |
| 1,2-Dichlorobenzene | ND | | | | 3 |
| 1,3-Dichlorobenzene | ND | | | | 3 |
| 1,4-Dichlorobenzene | ND | | | | 3 |
| Dichlorodifluoromethane | ND | | | | 3 |
| 1,1-Dichloroethane | ND | | | | 3 |

CONTINUED

| | | | |
|------------------------------------------|---------------------------|----------------|---------|
| Environmental Support Technologies, Inc. | | Date Sampled: | 3/27/97 |
| 23011 Moulton Parkway, Suite E-6 | | Date Received: | 3/28/97 |
| Laguna Hills, CA 92653 | | Date Prepared: | 4/1/97 |
| | | Date Analyzed: | 4/1/97 |
| Sierra Project No.: | 9703-296 | Analyst: | SM |
| Client Project ID: | Continental Heat Treating | | |
| Sample Matrix: | Soil | Report Date: | 4/4/97 |

EPA METHOD 8021 CONTINUED

| Concentration, µg/kg | | | | | Method Detection Limit, µg/kg |
|---------------------------|------------|--|--|--|----------------------------------------|
| Client Sample No.: | CHT-B1-65' | | | | |
| Sierra Sample No.: | 4575 | | | | |
| COMPOUNDS: | | | | | |
| 1,2-Dichloroethane | ND | | | | 3 |
| 1,1-Dichloroethene | ND | | | | 3 |
| cis-1,2-Dichloroethene | ND | | | | 3 |
| trans-1,2-Dichloroethene | ND | | | | 3 |
| 1,2-Dichloropropane | ND | | | | 3 |
| 1,3-Dichloropropane | ND | | | | 3 |
| 2,2-Dichloropropane | ND | | | | 3 |
| 1,1-Dichloropropene | ND | | | | 3 |
| cis-1,3-dichloropropene | ND | | | | 3 |
| trans-1,3-dichloropropene | ND | | | | 3 |
| Ethylbenzene | ND | | | | 3 |
| Hexachlorobutadiene | ND | | | | 3 |
| Isopropylbenzene | ND | | | | 3 |
| p-Isopropyltoluene | ND | | | | 3 |
| Methylene chloride | ND | | | | 3 |
| Naphthalene | ND | | | | 3 |
| n-Propylbenzene | ND | | | | 3 |
| Styrene | ND | | | | 3 |
| 1,1,1,2-Tetrachloroethane | ND | | | | 3 |
| 1,1,2,2-Tetrachloroethane | ND | | | | 3 |
| Tetrachloroethene | ND | | | | 3 |
| Toluene | ND | | | | 3 |
| 1,2,3-Trichlorobenzene | ND | | | | 3 |
| 1,2,4-Trichlorobenzene | ND | | | | 3 |
| 1,1,1-Trichloroethane | ND | | | | 3 |
| 1,1,2-Trichloroethane | ND | | | | 3 |

CONTINUED

| | | | |
|------------------------------------------|---------------------------|----------------|---------|
| Environmental Support Technologies, Inc. | | Date Sampled: | 3/27/97 |
| 23011 Moulton Parkway, Suite E-6 | | Date Received: | 3/28/97 |
| Laguna Hills, CA 92653 | | Date Prepared: | 4/1/97 |
| Sierra Project No.: 9703-296 | | Date Analyzed: | 4/1/97 |
| Client Project ID: | Continental Heat Treating | Analyst: | SM |
| Sample Matrix: | Soil | Report Date: | 4/4/97 |

EPA METHOD 8021 CONTINUED

| Concentration, µg/kg | | | | | Method Detection Limit, µg/kg |
|---------------------------------------------------|------------|--|--|--|----------------------------------------|
| Client Sample No.: | CHT-B1-65' | | | | |
| Sierra Sample No.: | 4575 | | | | |
| COMPOUNDS: | | | | | |
| Trichloroethene | ND | | | | 3 |
| Trichlorofluoromethane | ND | | | | 3 |
| 1,2,3-Trichloropropane | ND | | | | 3 |
| 1,2,4-Trimethylbenzene | ND | | | | 3 |
| 1,3,5-Trimethylbenzene | ND | | | | 3 |
| Vinyl chloride | ND | | | | 3 |
| Total Xylenes | ND | | | | 3 |
| Dilution Factor | 1 | | | | QC Limits |
| % Surrogate Recovery: 1-chloro-2-fluorobenzene | 110 | | | | 30-135 |

| Quality Assurance/Quality Control Data | | | | | | | |
|----------------------------------------|---------------|--------------|-----------------|---------------------|--------------|-----|--------------|
| QC Sample ID: 9703-296-4575 | | | | | | | |
| Compounds | LCS % Rec. | QC Limits | Spike % Rec. | Spike Dup % Rec. | QC Limits | RPD | QC Limits |
| 1,1 Dichloroethane | 102 | 80-120 | 102 | 104 | 47-132 | 1.2 | 0-30 |
| Carbon Tetrachloride | 102 | 80-120 | 105 | 106 | 43-143 | 0.5 | 0-30 |
| Bromoform | 110 | 80-120 | 110 | 108 | 13-159 | 2.3 | 0-30 |
| Benzene | 105 | 80-120 | 105 | 102 | 39-150 | 2.4 | 0-30 |
| Toluene | 105 | 80-120 | 105 | 102 | 46-148 | 2.4 | 0-30 |
| Ethylbenzene | 102 | 80-120 | 102 | 103 | 32-160 | 0.5 | 0-30 |

ND means Not Detected

Reporting Limit (RL) = Method Detection Limit (MDL) x Dilution Factor